

APRIL, 1875.



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Containing Phosphoric Acid.....	24.62 per cent.
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THE AMERICAN FARMER.

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." *Virg.*

PUBLISHED BY SAM'L. SANDS & SON, BALTIMORE, MD.

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APRIL, 1875.

[NEW SERIES.]

On Fertilizers.

A changed system of labor in the former slaveholding States has necessitated, or will necessitate, a change in the mode of farming. The old plantation system can never revive, and ultimately we will see the day of smaller farms. This, not as desirable in itself, nor as more profitable, but from the demands of the case. Until this change, however, which will occur slowly and gradually, does take place, the main reliance of our Southern agriculturists is upon fertilizers, and improved implements and machinery especially adapted to the various cultures in practice among them. In addition to the numerous labor-saving machines of the North, some of which are entirely inapplicable to our needs, and most of which require more intelligence than that of the negro field-hand to manage them, we want special implements suited to our special needs, and this want is becoming so pressing that it cannot be long before the ingenuity of our mechanical talent will supply it. Even before this, we need a rational system of manuring, founded on principles of economy and reason, and this system, in our view, to reach its highest efficiency and value, must comprise the use of domestic manures and composts, as well as the application of artificial fertilizers and the resort to green manuring, all combined. Great as is the present demand for and use of commercial manures, we consider that, in reality, we are just entering an epoch in our agricultural history when their consumption will be well-nigh universal. Their intelligent application in this country, as in England,—where in some counties a man would almost as soon undertake to farm without his plow as without his annual supplies of super-phosphate,—will be demanded by the conditions of our farm practice. We hope never again to see the feverish

excitement which once prevailed, and the illusions which were formed as to the effects of far-fetched guanoes, but it is our expectation that we will reach a point where the steady but discriminating demand for reliable fertilizers will exceed anything that has yet been witnessed in this country. It is, however, far from our thoughts that this demand will lessen in any degree the attention paid to home-made manures and composts. It would be derogatory to the intelligence of the readers of the *American Farmer* to even utter a caution on this point. We have so often repeated our exhortation to utilize the manurial products of the farm—by mixing and composting the manures of the stables and barnyard, the muck and marsh mud so often accessible, the guano-like dung of the poultry house, the scrapings of the pig-pens, the waste from the house, the night-soil from the vaults, the sods and trimmings from the yards and roadsides—that none of our readers will think of our suggesting the neglect of home resources can be supplied by manufactured fertilizers. Our pages, too, have so often presented urgent appeals for the use of clover, buckwheat and the pea, as ameliorators of the land, that we cannot be suspected of overlooking their importance and worth. If any one, likewise, is fortunate enough to be situated so as to enrich his land by the feeding of cattle, as suggested in the admirable remarks of Mr. Archer, given elsewhere in this issue, then he will have little need to resort either to turning under green crops or to applying mineral manures,—but such cases are comparatively few, though where the huge deposits of rich manure from stall-fed cattle are found, there, indeed, abundance and fertility ought to prevail.

Our agricultural faith, however, looks forward to the day when all the means within reach at home will be used to their fullest effect, and sup-

plemented by external helps found in the manures of commerce.

These latter, we believe, are steadily appreciating in value, and are now prepared by the aid of scientific skill of a character which a few years ago was entirely unknown in their manufacture. Where, formerly, the manipulation was crude and empirical, now the combination is the result of the keenest chemical inquiry and examination.

This very tendency to improvement in methods and to selection of the most promising materials in the making of manures, is one of the surest safeguards the consumer has in their use, the competition in this now immense and ever-extending branch of our commerce stimulating manufacturers to increased watchfulness in maintaining the character of their respective brands.

Nothing, perhaps, in agricultural science is now more clearly settled than that, for supplying the needs of all soils, which by long culture have become worn out by improvident cropping, two substances are absolutely needed, to be supplied artificially to restore such waste, namely, *nitrogen* and *phosphoric acid*, (though some deny as to the first) and that on many, especially those of light, sandy character, *potash* is also a desirable application. Of all the other elements entering the composition of cultivated plants, it is very rarely that any one is not present in soils under tillage sufficient for the needs of the crops.

Now, as the three elements named are precisely the ones which are supplied, or should be, in every brand of commercial fertilizer, some might doubt the economy of consuming time and labor in gathering and composting the materials named above as abounding on the farm. This might be true, too, but for this additional fact, which we have stated more than once before in these pages, but which is one of such practical consequence that its repetition again and again cannot be untimely—which is, that the effect of these mineral manures is very much increased by, is in direct proportion, indeed, to the presence of the organic materials naturally contained in the soil, or placed there artificially, either by turning under green crops or by the addition of domestic manures and composts. More than this, it is demonstrated almost to a certainty, that the more *humus* existing in the soil, from the decomposition of vegetable matters, the less the need of adding nitrogen artificially. As this is the scarcest and consequently the most expensive ingredient entering into the constitution of bought manures, it is readily perceived what a saving is made by avoiding the necessity for its purchase.

We would say, then, that artificial manures, from the condition of our agriculture, are destined to greatly widened use; that this use, to be profitable, must be only in combination with that of all the materials to be accumulated and mixed on and about the farm; that where few cattle are kept the deficiency is to be supplied by gathering and composting such organic remains as may be available; that on poor land, destitute of supplies of vegetable substances, a more highly nitrogenous manure is needed than on those which are rich in humus, and that in this consists the economy of saving barn-yard manures and composting organic matters; and, lastly, that one very important effect of the application of highly concentrated and soluble manures is in the immediate start which it gives the plant to which it is applied, and thus promotes its early maturity.

Satisfactory Experiments with Fertilizers.

Prof. Stockbridge, of the Massachusetts Agricultural College, at a recent meeting reported an experiment made by him. He said that in 1869, specimens of soil were taken from various places, carefully avoiding all rich lands, and this soil was placed in the plant-house, and different kinds of seeds were planted. The plants were fed with nitrogen, phosphoric acid, potash, and all the elements necessary to the food of plants. These experiments were continued for four years, in order to determine what stimulated growth and what did not stimulate growth. The answer of Nature seemed to be, "If you want to grow such plants, on such soils, take nitrogen, potash, and phosphoric acid; you need not trouble yourself to put in any carbon, oxygen or hydrogen, soda, chlorine, or sulphuric acid, nor any magnesia, except for the tobacco crop." Having obtained this result, the experiments were tried on a larger scale, in the open field, in 1873 and '74. The question he proposed to ask Nature was: "If I give you the material to make twenty-five bushels of corn, will you return me the twenty-five bushels, over and above what the soil would produce without this material?" A mistake was made in the first instance, because he reasoned that a certain portion of the fertilizing material would not be used by the crop, and was to be charged to the land; he therefore put in more than the amount required, and got a larger crop than he expected. Two plots of land were planted with corn, one with and the other without manure, and the crop treated exactly alike in every respect. The plot without manure yielded 35 bushels to the acre, instead of 15, as he had calculated, and, therefore, the plot with manure must yield 60 bushels, to come up to his requirement. It actually yielded 64.4 bushels. The excess he attributed to the fact that he had, as already stated, applied a larger quantity of the fertilizing material than was required to produce 25 bushels. The same experiment was tried in other places, at his suggestion, by practical

farmers, on whose faithfulness he could rely, and always with the same result—the material applied to the land produced the increased crop he expected.

In one of his experiments he used potash which was certified by one of the Boston chemists to contain 32 per cent. of actual potash, but which Professor Goessman found to contain only eight per cent., so that instead of paying eight cents a pound for potash, they had paid thirty-two cents. This discrepancy created quite an excitement at the College, and the Boston chemist was interviewed in regard to it, and had been exceedingly civil ever since. As soon as the fact was discovered, the proper amount of potash was given to the crop on the College farm by hoeing it in, and the result was satisfactory; but at other places where the experiment was being tried, it proved a failure, in consequence of the deficiency of potash. Where the fertilizer was used on potatoes, it produced at the rate of 219 bushels to the acre, against 138 bushels on same kind of soil, without the fertilizer. In one instance, on poor soil, he got at the rate of 104.68 bushels of corn to the acre. Tobacco was contraband at the College, but the fertilizer had been tried on that crop outside, and produced at the rate of 1,950 pounds to the acre of beautiful leaf.

The professor said it might be asked why, if he could raise 25 bushels of corn to the acre with a special fertilizer, he might not go on, and, by increasing the quantity, raise 50 bushels, 75 bushels, and so on indefinitely. But it must be remembered that plants required sunlight, air, and warmth, and there were limits which could not be overpassed.

Fertilizers for Corn and Cotton.

The *Southern Cultivator*, whose editorial utterances are always pertinent and well-digested, gives the following:

For corn no manure within reach surpasses cotton seed. We think, however, that it may be improved by manipulation, keeping in view the character of the soil and its previous treatment. In stiff land, or in gray land with clay sub-soil near the surface, experience has shown that super-phosphate added to cotton seed improves them for corn—100 lbs. to 120 bushels seed. If the land also has been highly manured, in previous years, with lot or stable manure, salt may be added with good effect, say 50 lbs. salt to 20 bushels of seed—and if the soil is at all disposed to be dry or thirsty, it is well to add 100 lbs. plaster to the same quantity of seed. It is now too late to compost, and the cotton seed ought to be crushed or killed by moderate heating. This should be done in small piles, that the heating may be easily watched and stopped before it reaches the point of doing harm. It is only after putrefactive fermentation sets in (shown by unpleasant odors) and the heat becomes great, that any appreciable loss of valuable gases occurs.

The proper mode of applying manure to corn, may, in part, be decided by considering the arrangement of its roots. In the early stages of growth maize emits long, slender roots which stretch out on all sides and ramify in every direction. As the period of fruiting approaches,

it develops spur or brace roots. Unlike the first set, these are stout and push *downwards* instead of spreading laterally—they demean themselves almost like so many *tap* roots, penetrating to considerable depths and emitting very numerous, but rather short, secondary roots. No one, who has ever examined these spur or brace roots, can doubt that the bracing of the stalk is a secondary and not their primary function. Their immense quantity of small fibrous roots must be intended for active absorption of material near the base of the stalk,—at a time, too, when the plant needs food more abundantly. Near the stalk, then, and on all sides of it, we conclude is the place to put manure, and general practice coincides with the deduction. Placed there it is daily moistened by the dew, which, condensed by the leaves, and running down them to the stem and finally to the ground, soaks in at the base of the stalk. The same concentration of moisture takes place also every light shower of rain.

Bedding Cotton Land.—Where no manure is applied, or ordinary commercial fertilizers are used, bedding of cotton land may be advantageously continued this month. Bed the *lighter* lands first, and leave the stiff for the last, that they may escape, if possible, compacting rains. Where washing can be guarded against, high beds are decidedly the best, as they admit of being *cut down* just in advance of planting time, leaving a *fresh, smooth* surface to receive the seed. An ordinary triangular harrow, with the teeth set, some short and some long, so as to conform to the general outline of the bed, will do this rapidly and well. The importance of a good stand cannot be overestimated, and hardly any trouble or labor, which tends to secure it, can be considered unreasonable or expensive. If the tops of one's cotton beds are cloddy, or encumbered with rocks or tufts of grass, the opening plow cannot make a furrow of *uniform* depth, and some of the seed will inevitably be covered too shallow or too deep. This we try to obviate by shaving down the bed with the harrow, as above.

Putting in Commercial Fertilizers.—In some respects this work is best done with cotton planters; these can be gauged to distribute it with *perfect uniformity*, and from discharging the fertilizer near the ground, avoid its being blown off by the wind. The chief objection to their work, is the *concentration* of the manure in a very narrow line at the bottom of the drill. A coultter following the planter would mix the fertilizers with the soil, and this would be a decided improvement. Especial care should be taken to put the manure deep enough to feed the *cotton* plant and not the *grass*—it should be at least three inches below the surface.

Quantity per Acre.—This is regulated by richness and depth of soil, and the presence or absence of vegetable matter—the richer, deeper and more abounding is the soil in vegetable matter, the larger the quantity that may be safely and profitably used. On ordinary medium lands, 150 to 250 lbs. of fertilizers pays best.

The kind of Fertilizer it is best to apply, depends also on character of land. The richer the soil and the more humus it contains, the less ammonia and the more phosphoric acid it should

receive. New ground and old pine fields just cleared, for instance, need no ammonia, but will be benefited by liberal supplies of super-phosphate. Poor old lands need pretty liberal applications of ammonia to secure sufficient *weed*.

A Good Compost.

Mr. Geo. Watt, the well-known plow maker of Richmond, and who, the editor of the *Southern Planter* says, is one of the best of farmers, writes that paper that a most valuable and cheap manure may be made from the following mixture:

Twenty large cart-loads of *pure muck* laid down one foot deep, with about one bushel of farm salt spread over it. On the top of this put five large cart-loads of barn-yard or stable (from cows or horses) manure. On this spread 100 pounds of farm plaster; then *muck, salt, manure and plaster* as before, until your manure is exhausted—finishing off on the top with one foot deep of muck.

This mixture will equal any for its cost that can be made. A good compost may be made of the muck and manure laid down as above. Muck is the essence of decayed vegetation, and it will need no explanation why this mixture is very superior.

Correspondence.

The True Theory of Farming.—No. 5.

Messrs. Editors American Farmer:

If any expect the True Theory to unfold new principles or curious analogies for the inquisitive, careless, or casual reader; or to present chimerical means of escape from skill and labor, or from the adversities of unfavorable seasons, or the waste of plant food in cultivation, they will be disappointed.

An amazing superabundance of cheap, and sometimes perverted learning, is ever ready, and early falls on the true discoveries of science, ere long obscuring, like a cloud, what rational experiment and practice, and general laws evolved thereby, have established.

The True Theory is an humble but fearless attempt to remove these clouds, and plainly to present the *known* means of ameliorating necessary evils, as the avoidance of unnecessary labor and expense; counteracting the effects of drouths; restraining the waste of plant food; and of economy in the restoration of food to the soil. And herein, in due time, will be considered the object, mode and results of stirring the soil; the different sorts of manures, and the most economical condition, whether fine or coarse, soluble or insoluble, in which to apply them.

This is hoped to be accomplished by a plain elaboration of the text heretofore announced, and here repeated, to be kept always in view as embodying the true landmarks, viz: "The greatest production of plants in the shortest time, with the least expense, with the least waste of plant food, and the greatest improvement of the soil."

Through insidious channels (by inadvertence or otherwise) the unerring landmarks of the text have been obscured or overthrown. Its integrity and indelible establishment in the public estimation is attempted by three-fold argument. First, Explanatory and affirmative; Second, Defensive, against assaillment; Third, Offensive, against opposing theories or sayings of the books.

It cannot however proceed in the order here named; and the last must necessarily tinge the argument with the appearance of criticism by attacking the views of others. Nothing will be said, however, in criticism of aught that does not contravene the text. For example, if it be correct to bring about the largest yield in the shortest time with the least expense and least waste of plant food, and a writer teach positively and directly, or through plain inference, that certain means, as any special manures, should not be employed, because they would produce these very results; then, by inference, he assails the text; and it is the business of The True Theory to set him aside, if possible, and failing in this to surrender the sinking ship as no longer able to resist the waves, and the guns of the enemy. Having ignored compromise, and shielded with no diplomacy of argument, under cover of which to withdraw or shift position, its fate is linked with the text, and must culminate in abject surrender, or triumphant victory. Readers are therefore asked to suspend judgment,—“to stand still and see the salvation.”

The first clause, restrained by the third, as to expense, requires the production, if possible, of 100 or 1,000 bushels of grain on one acre in one year, instead of seeding and tilling the same five, ten or twenty years, or seeding and cultivating five, ten or twenty acres one year, for the same result. Notwithstanding the denouncement of the so-called stimulating fertilizers, which, as will hereafter be shown, exist only in the imagination, if any (no matter what) substance would produce these results, and its cost does not exceed the additional expense of seeding and labor for four, nine or nineteen years or acres, as the case may be, then that substance should be applied, even if it should “*force all the plant food out of the soil into the crop,*” in one year, or, if possible, in one month.

The means and mode of its replenishment must be apparent from what has been said, but will be referred to hereafter in detail. Besides the saving of seed and labor for four, nine or nineteen years, the conversion of all the plant food into plants in one year, that would inevitably waste away in a number of years, is too apparent a saving to admit of cavil. It will be shown hereafter that a smaller portion of these clear savings would restore to a once fertile soil all its wonted fertility, as also the means for its replenishment from year to year.

The accomplishment of the first and second clauses of the text results in conformance with the third, in regard to expense, and with the fourth in respect to waste; for the expense and waste for a number of years must be greater than for one year or one month.

The waste by sinking below the soil, washing away, evaporation, &c., during cultivation, goes

on in spite of all we can do. The food *saved* by incorporation with plants, constitutes, as we have seen, but a small portion of the plants, and this is far less than that removed from the soil from other causes.

If we produce the greatest quantity of plants, that is *save* the greatest amount of plant food possible, and do this in the shortest time, with the least expense, then the fifth clause, in reference to *improvement of the soil*, is easy of accomplishment; because the only way to perpetuate fertility is, in short, to *make a profit out of the crops produced*. This profit can only be made by conversion of plant food into plants; and yet we are warned, by a certain class of teachers, to beware lest we should use a fertilizer that will "*force every thing out of the land into the crop*," and thus exhaust the soil. If it is profitable to convert plant food of the soil into plants, if this be the object of agriculture, can the mind conceive a more forcible expression of complete success, than the *conversion of it all into crops*? Yet we are warned against the use of a substance that is said to produce this very thing, *because it produces it*.

We have seen that the only way to perpetuate fertility is to import plant food, and the only way to import plant food is to have the means to pay for it; and the only way to make the money to pay for it in agriculture, is to convert plant food into plants as rapidly as possible, with the least expense in proportion to the amount converted.

We have seen that, in fertile *cultivated* soils, the waste is more rapid than the supply of plant food from decomposition. Soils unfed by deposits from higher levels, will deteriorate in cultivation, and no matter how rich, without replenishment, they must finally become exhausted of some of the substances necessary for plants.

Two extreme, erroneous opinions prevail on the subject of exhaustion and replenishment. One, shared by the learned, that if the amount of food exported in the crops be restored, fertility will continue, of which examples have been given; the other, by the ignorant, who suppose replenishment unnecessary, because artificial replenishment is not necessary to continued fertility in forests and uncultivated prairies.

These notions are equally fatal, in their ultimate consequences, leading alike, sooner or later, to exhaustion. The former recognizes no loss from any cause over the natural replenishment by disintegration; the latter, no loss, except in the exportation of crops. The former notion is less dangerous to the farmer, because he would sooner see the fallacy of so bald an error, and sooner become his own headpiece; the latter arrays before him the quantity of lime, magnesia, &c., absorbed by a crop, as the measure of replenishment, and keeps him longer in darkness, but he is finally overthrown by either.

To instill a little learning, especially bad learning, is a "dangerous thing;" the illusions of pretended science, unfounded in fact, or mistaken in speculation, are among the arch enemies of true science.

Experimental art, without the aid of intelligent science, has been incessantly persevered in by

the Chinese, and many of their arts, as dyeing, painting, the manufacture of porcelain, &c., reached a degree of skill a thousand years ago, that is hardly surpassed by the scientific world of the present age. They have learned the arts, by intense practice and close observation; and they tell how they are accomplished by recipes, but cannot explain the principles; that is, they do not understand the chemical laws that produced the results their experiments have reached. They are perhaps the oldest agricultural people on the globe; and though agriculture is yet but an art, to them, under the empiric system, they long since attained such a degree of knowledge of the art, as to sustain the densest population in the world for thousands of years, and their soil is still productive; while in two centuries, on our Atlantic seaboard, soils originally fertile are exhausted to barrenness with the principles of science *partially* taught of which the Chinese are still ignorant.

Is this the fault of science? Does the understanding of the natural laws that controlled all the Chinese have practiced for unnumbered ages with success, without such light, blind us, and place us in the rear in the art of culture? If so, it is high time we should abandon it, and return to empiricism.

Such, however, is happily not the case. Science has enabled those *who already understand it*, in Europe and in the United States, to extract far greater yields of plants from the soil than ever has been done in China. It is the *false teaching* of science, by those who do not know or care what they teach, so it meet present approbation. This is the great drawback to the onward march and usefulness of science. The farmer is lured by flaming declamation and vague generalities, (well tinged with the hue of his known preconceived notions,) to abandon the plan of careful experiment, and to waste his means in pursuing the phantom of a science his *teachers* do not understand, and that *he* never realizes, and thus he falls hopelessly between without the aid of either.

The practice of experimental art proceeds step by step, and requires many ages to develop what science, built thereon, may reach at once. Science is an offspring of the practice of the arts, and is evolved, principle by principle, from close and intelligent observance of all the phenomena attending the practice of experimental art. Its principles are, hence, far more complex than the rules of art, and so interwoven that the care with which it is to be preserved, taught and applied, increases as it unfolds and extends, taxing the utmost capacity to keep in view all the circumstances connected with its application in practice.

On the part of the learned, who are not also practical or experimental farmers, the utmost vigilance and most unbending integrity and courage become necessary to avoid error on every hand.

In the application of principles governing the forces of nature, the farmer is confronted by a multitude of circumstances, many of which are left out of view by the pretended scientist. Thus science becomes the object of unmerited contempt, because it is not understood or obeyed. But by far the greatest drawback to agricultural

science, comes from the servility of teachers who undertake, for various personal reasons, to make it appear consistent with the erroneous views of the unlearned. To illustrate the foregoing: Suppose a scientist should teach a farmer, that "*The condition in which to apply manures is of essential importance*;" that "*they should always be thoroughly pulverized to allow of their being easily dissolved*." That "*the sole purpose of dissolving bones, coprolites, &c., is to render them soluble in water. The soluble portions of any manure are always the most valuable. Thus coprolites, or phosphate of lime are totally insoluble in water and therefore unfit for assimilation by plants, but when treated by acid, a certain amount of their constituents are rendered soluble and are washed down by the rains to the roots of the plants which can feed on the substances provided.*"

"*Nitrate of soda is a useful manure. There cannot be a doubt of the immense value of artificial manures, and the impossibility of being without them, &c.*"

This is very good science, agreeing with the practice of ages, especially in reference to *fineness and easy and ready solubility*. It has been recognized, and intensely practiced by the Chinese and other people of sense and experience for ages, with utmost success, without their ever understanding the reasons *why* they should be soluble, any more than that for some reason, inscrutable to them, when thus applied, they were more potent in the increase of fertility.

So well, however, did they know the fact that manures are only valuable *in proportion to their solubility*, that they were not content with the finest pulverization, but applied them actually in solution in water whenever practicable; knowing the fact, without understanding the reason, that they would not thus run away and be lost, but would readily be absorbed by the soil, and held there by means unknown to them, and administered to the plants as needed.

All the scientists in the world could not, and ought not, to convince them that it is better to apply fertilizers in an insoluble state, because it is contrary to their own knowledge and experience.

It is the office of science to explain, and it does explain, how, by chemical forces, soluble fertilizers, or those applied already in solution, are assimilated into the soil and rendered more readily available to the plants, and more securely held in the soil for their vital action than any merely mechanical mixtures of manures in the soil. This, however, will be elaborated hereafter.

To illustrate the foregoing: suppose another and different teacher from the above quoted, representing himself as the champion of the same science, should teach opposite views to those embodied in the above quotation, as follows, viz: That "*artificial manures are only of real practical benefit for one season; that they are specially prepared for being dissolved*;" and that therefore, "*it is highly possible that in a dry season they are more powerful absorbents of water than the plants, and hence the plants die from the fact that the surrounding thirsty manure deprives them of what little moisture the soil possesses, and in wet seasons there cannot be the smallest doubt that the rains wash away the whole of the artificial manure which is soluble*;" that "phos-

phatic manures especially which are treated with sulphuric acid, and brought to a very high standard of solubility, do harm. They are like filling the land with an internal thirst." * * * * * That "*manure containing a high percentage of soluble phosphates is a bad thing*," and he "would not advise farmers to use such as contained 29 per cent. soluble phosphates; they at once created in the land a thirst for water;" that "*artificial manures were prepared solely with one view, one object—that their stimulant properties should be at once contributed to the plant*," and they were made "*as soluble as possible to dissolve directly water came so as to convey the largest amount of soluble matter to the plant*;" that their "*introduction into the land in a dry season, when there is but a slight amount of moisture in the soil, had this effect—they put in a lot of stuff thirsting to be dissolved, and the more matter for dissolution the greater the thirst, drawing moisture from the surrounding land, and even depriving the plant of moisture*;" * * * that "*it is precisely similar to dosing a patient with an overdose of stimulant; like a man drinking a bottle of brandy at one sitting*;" that "*nitrate of soda is an excellent example of this; it produced in the land exhaustion*;" that he would prefer a manure "*containing 16 to 18 per cent. of soluble, and 10 or 12 per cent. of insoluble phosphates*;" that "*nitrate of soda is entirely soluble in water, supplying the fertilizing matter at once in great abundance to the plant*;" that "*therefore it is very exhaustive*." * * * "It would force everything out of the land into the crop."

In brief, one of these doctors teaches, that the essential condition in which to apply manures is *fineness and solubility*—that the soluble portions of any manures are *always* the most valuable. That "*nitrate of soda is a useful manure*; and that there cannot be a doubt of the *immense value* of artificial manures, and the *impossibility* of being without them."

The other, on the contrary, urges with wonderful display of reasoning, that the same manures in the same condition are only of "*real practical value for one season*," and that if brought to a high standard of solubility, in dry seasons they will thirst the plants to death; and in wet seasons will intoxicate them, and produce exhaustion of the soil, by forcing everything out of the soil into the drunken plants. And that, so far from nitrate of soda being a "*useful manure*," it is an excellent example of soluble fertilizers that produce these baleful results.

Can more opposite theories on the use of manures be conceived? Can the most versatile genius reconcile them; or is the pliancy of human credulity equal to the task of believing both?

Yet these are theories supposed (how truly will hereafter appear,) to be presented by pretended exponents of the applied science of agriculture to plain farmers, a number of whom were advocates of, and a faction prejudiced against the use of the same fertilizers. Like parties aiming for place at the public crib, the different factions, intensified by argument profound, reward their respective champions by public plaudits and general favor; and thus the sad havoc of true science goes on. The space allotted is now over-run; therefore, adieu, FREEDOM.

Experimental Farm Club of Chester Co., Pa.

Messrs. Editors American Farmer :

The February meeting of this Club was held on the 25th, and though owing to the bad roads it was not large, yet it was a very interesting one. The first business of importance was the reading of a report from a committee appointed to examine a cow's stomach, and give their judgment upon the distribution of coarse food and meal, when fed mixed.

The committee report: "They fed a cow corn meal, and unground oats, 3 quarts each, mixed. Immediately after eating she was killed, and the contents of her stomach examined.

The position of each stomach was found to be as follows: The gullet or œsophagus empties into the first stomach or rumen, near its connection with the second stomach or reticulum, and food might pass readily into either of them. The second stomach connects with the manyplies or omasum, and empties into a channel that might allow food to pass into the fourth stomach or abomasum, *without passing through the folds of the manyplies!*

In the case under investigation, the meal and oats had evidently undergone an immediate and thorough separation; the unground oats being found in the first stomach and the meal in the second, and in the above-mentioned channel of the third stomach, and in the fourth stomach. No meal was found either in the first stomach or among the manyplies. The committee therefore doubt if mixing meal with coarse or cut food necessarily secures its better digestion." This conclusion was accepted by some and objected to by other members of the Club, and the committee directed to continue their investigations further.

The committee on a dog law reported that numerous petitions had been forwarded, and that a bill had been presented to the committee on agriculture, in our legislature; but that a majority of the committee were opposed to the bill, members asserting that they could not be returned, if they voted for a bill taxing dogs!

The committee appointed to report on Steaming Food for Stock, made a very lengthy and valuable report. Only a brief synopsis can be given. After preliminary remarks, they assert: "That cooking rendered most alimentary substances less digestible," that "the effect of cooking on fibrin was doubtful; on casein injurious; on albumen positively so." They sum up this part of the subject as follows: "Starch, of all common vegetable principles, is the only one, (speaking in a strictly chemical sense,) that is positively benefited by cooking or steaming, and even in this case it is of little weight when applied to ruminating animals. But cooking has a mechanical effect on vegetables. Woody fibre is disintegrated and softened, liberating the assimilable principles confined within its walls. Starch exists in vegetables in the form of small grains, and these are burst by heat, and the confined starch released. The mechanical effects of steaming food are probably beneficial to all vegetable principles; while the chemical changes are of positive benefit to starch alone, and actually hurtful to many." They further assert, "that spoiled hay, straw or fodder,

is greatly improved by steaming, as this process destroys the fungus of mold," but they say "farmers should have no spoiled hay."

They next considered the characteristics and functions of the stomachs of different domestic animals, and made this point, that in the class ruminantia, "one great purpose of *chewing the cud* was the introduction of oxygen into the food, and a thorough mixing with saliva, increasing its solubility, and introducing the air-bubbles into the stomach so necessary to proper digestion; that cattle fed with steamed food seldom chewed their cud, and therefore suffered loss from the above-mentioned causes." They attached considerable importance to "cutting food, and to mixing the meal or grain with it, thereby securing the better digestion of the meal, and the more economical and rapid fattening of the cattle." They asserted "that much the greater part of the saving in cutting and steaming food, was due to the cutting, or grinding alone. After a careful search for reliable experiments on this subject, they confess that most of them are made without proper data to make them conclusive, or worthy of confidence; and that the results of the best authenticated are against steaming food."

The conclusions of the committee were strongly rebutted by Thos. Wood, Chas. B. Moore and others, who from their experiences with cooking food for pigs, &c., were led to believe in its utility. The report was held over for further discussion. In this connection the superintendent of the Experimental Farm reported an experiment, made a few days ago, comparing scalding cut-feed, with feeding the same kind of feed dry, for butter cows. Mr. Carter says: "During this experiment the cows were fed the same amount of feed in both cases, as near as possible, some allowance being made for the severe cold of the last week. The first week the cows were fed as follows: Morning feed, 10 lbs. cut fodder and 4½ qts. of meal mixed and scalded the previous evening; noon feed, ½ sheaf of corn fodder and one peck beets; evening feed, 5 lbs. cut hay and 4½ qts. meal mixed and scalded in the morning; after milking a little whole hay was given.

Commenced first trial Jan. 26th, lasting 7 days.

Whole amount of milk.....	1,302½ lbs.
" number of lbs. of butter.....	60 "
lbs. of milk to make a lb. of butter ..	21 " 10 oz.
Mean temperature of weather at milking	26°

Commenced second trial February 10th—Cows fed as before, except the feed was fed dry.

Whole number of lbs. of milk.....	1,218¼ lbs.
" number of lbs. of butter.....	55½ "
lbs. of milk to a lb. of butter.....	21 " 13 oz.
Mean temperature of weather at milking	30°
Loss on dry feeding.....	4½ "

The natural shrinkage of the cows with the waning season, and the low temperature during the last week, would probably make up for all the difference in yield."

The implement committee then reported a strong recommendation of "Peck's Liquid Atomizer,"—an implement that would make a cheap, rapid and effectual application of liquid poison, or other solution, to plants or trees infested with bugs, slugs, worms or curculio; that the manner of its construction and of its operation will enable a farmer to destroy the Colorado beetle with rapidity, and with but a small quantity of poison.

An essay was read by Geo. Sharpless on "the best method of mending roads,"—speaking of the importance of this subject to the farmer and giving his judgment as to the best method.

An essay was read by Howard Preston, in answer to a referred question, asking for the best means of relief to farmers, during the present depression in business. Mr. Preston strongly urged a thorough retrenchment in private and public expenses, and that the proper solution of the financial and currency question was, for debtors to *earn more and spend less, particularly to spend less!*

An essay by George Balderson was read, urging legislative protection and encouragement in *timber-growing and timber-saving!* After the discussion of these essays and the usual appointments for the next meeting, the Club adjourned to meet March 25th.

JOHN I. CARTER,
Secretary.

Baltimore County Gunpowder Club.

Messrs. Editors American Farmer :

The February meeting of G. A. Club was held at the residence of I. M. Price. Though the day was exceedingly inclement, it did not interfere with an average attendance of members. There was also a number of guests present; among these C. W. Matthews, delegate from the Junior Club. S. M. Price presided.

Inspection.—In the stables we found things clean and prim; harness bright from recent oiling; horses, mules and cattle in excellent condition. Mr. P. is rather partial to mules for farm purposes; he finds them equally as efficient as horses, while they are at the same time far less damaging to the corn crib. He does not on that account overlook the advantages to be derived from breeding fine horses, for which there is always a market. Many other farmers might likewise reap a good harvest from this legitimate branch of their business, as Mr. P. is doing, by keeping only the best stock and breeding from the best horses.

Strawberry Culture.—In passing the garden our host jocularly called attention to his strawberry bed. If the latter was concealed from view by several inches of snow, and more then falling, we saw at least a large plat of ground substantially enclosed by a heavy pale fence. He informed us that the whole of it had been dug up to the depth of two feet, all stones removed, earth reduced to fine tilth and then thoroughly manured. It seems as if this experiment may afford some test in a small way of the value of *deep culture* and subsoiling.

Prize Corn Report.—Returning to the dwelling and reorganizing, business was resumed. A number of committees reported. The Prize Corn Acre Committee submitted the regulations they had been directed to prepare. In addition to the prize for a single acre, whose product must reach twenty-five barrels, a prize is offered for the best average yield on five acres. Besides the Club prizes, Jno. D. Matthews offers ten dollars to every member who will raise thirty barrels.

Presentation to the Secretary.—The Committee appointed to select some appropriate testimonial for presentation to the secretary, reported through

Edward Scott, chairman, that they had procured a gold-headed cane, having first ascertained that such would be acceptable. Mr. Scott then presented the cane in an address couched in pleasing and highly complimentary language; to which the secretary made a brief response, thanking the Club for the high honor conferred, and declaring his unworthiness of a mark of its favor at once so signal and so handsome. The cane is a heavy stick of ebony, mounted by a rich head, finely chased and relieved with black enamel. It bears a neat inscription, and was much admired.

The Annual Crop Report was the programme laid down for the occasion; however, only a few were made in full. Those who failed to furnish any, and those who furnished partial ones, will comply with the requirement for complete and written reports at next meeting. The following are some extracts:

T. T. Gorsuch—Grass Crop.—Mowed 30 acres, 27½ of which were in clover and timothy, 1½ in clover and orchard grass and 1 in millet. Product, 56 tons hay, averaging 113-35 tons per acre.

Rye Crop—Seven Acres.—Product 98½, average 13 5-14 bushels—1½ acres for green feed. On the whole were sown 1,668 pounds Whitelock's Vegetator and 1,450 pounds raw bone.

Wheat Crop—Twelve Acres.—Product, 240 bushels; average per acre, 20 bushels. Varieties, Fultz and Mediterranean—Fultz best. Eight acres treated to 1,350 pounds raw bone and 2,046 pounds domestic super-phosphate; four acres to 800 pounds raw bone, 1,200 pounds domestic super-phosphate and 166 pounds Whitelock's Vegetator. The manures intended principally for increase of grass crop.

Potato crop a failure, on account of Colorado bug.

Corn Crop.—Fourteen acres, no manure; average per acre, 14 2-7 barrels. Sixteen acres, part manured with 50 loads (four-horse) of yard manure; average per acre, 11 barrels. A part of the manure was plowed down about eight inches deep, the balance was spread on the top of plowed ground, adjacent to that plowed down; each manured with an equal quantity and quality of manure; both well harrowed. The plowed-down manure produced about one-third more corn than the top-dressed. On 31 acres, product 392 9-10 barrels; average per acre, 12½ barrels. On the whole, 60 tons of fodder. Mr. G. being a dairyman, nothing but surplus wheat is sold from the farm.

Jno. D. Matthews.—Wheat—518 bushels from 37 acres, 12 of which were corn stubble; balance in wheat last year, except a small potato patch. Five acres of the above were seeded with Fultz; balance, with Amber. Both kinds were straw-fallen and affected by the drought; the Fultz the most. The latter fell to the extent of one-half two or three weeks before harvest.

Oats and Rye.—None.

Corn.—Nineteen acres heavy clay bottom land limed with 50 bushels of lime per acre, and partly manured; plowed the previous fall; suffered from drought; yield, about 9 barrels per acre.

Potatoes.—A failure on account of bugs.

Hay.—About 40 acres mixed and clover; yield, 60 tons (estimated.)

D. Gorsuch.—Corn.—First field, 8 acres corn stubble; plowed in the fall; manured through the winter with barn-yard manure, at the rate of twelve four-horse loads per acre. Planted with corn-drill, rows 3 feet 10 inches. Worked with Thomas and Woolsey harrows, Davis drag, double-shovel and Woolsey harrow, in the order named. Average, 14 barrels. Corn left too thick. Fodder shocks—507, of five bundles each; putting at 25 pounds each makes about 4 tons per acre. Second field, 21 acres, a poor chance; it had been cropped twice in corn and twice in grain in succession. Failing of a grass set, took it up again. Plowed in fall, and well worked up in the spring before planting.—Planted with corn-drill, applying through the same in the row, at the rate of 100 pounds per acre, Whitelock's Vegetator, Turner's Excelsior and the fertilizer of the Maryland Company, with very decided benefit, especially from the Maryland Company's fertilizer. Corn, likewise here, had been permitted to stand too thick. Worked six times with same implements and about in same order as first field. Average, 8 barrels. Fodder shocks, 1,235; total yield of fodder on 29 acres, 90 tons.—all housed in good order.

Apples.—2,500 bushels (estimate;) cider, 60 barrels.

Manure.—263 four-horse loads.

Note.—At August meeting Mr. G. reported 150 tons of hay on 127 acres. Wheat—12 acres; average, 20 bushels. Rye—20 acres as fine as he ever cut. No oats. Potato crop promised to be fair; bug successfully resisted with Paris green.

N. R. Miles.—His attention had been directed chiefly to fruit and milk. Apple crop amounted to probably 1,000 bushels; average price, (retail) \$1.00 per bushel. Average of oats about 10 bushels; rye, 9. Potatoes—vines destroyed by the bug.

A. C. Scott.—Wheat—17 acres, put in with drill; manured with barn-yard manure and Whitelock's Vegetator; yield, 223 bushels.—Grass—45 acres; average, 1 ton. Rye—6 acres in corn ground; yield, 15 bushels per acre.—Oats—10 acres; yield, 212 bushels. Corn—18 acres; one acre, treated to phosphate in the hill and manured lightly with barn-yard manure, had given a yield of 15½ barrels; balance averaged about 8 barrels. Of the apple crop, the Rambo did well; other kinds, not so good.

The Manure Question.

Readings by class third being next in order, an article from the pen of Joseph Harris, in the *American Agriculturist*, was read. It aims to prove that liberal feeding and keeping more stock will afford nitrogen and phosphoric acid at a far cheaper rate than by purchasing artificial manures. It formed a text for remarks to about the following effect:

The propensity of farmers to resort to the meretricious expedient of employing commercial fertilizers in a wholesale way in their agricultural operations, is a sad evidence of their want of foresight and deliberation. They listen too willingly to the lo here! and lo there! syren, as she promises to relieve them of some hard labor and hard thinking; promises a short road to a large crop: so they grasp yearly at straws, each clutch sinking them deeper at the reaction.

There is abundant proof that too much of their money goes into cheap dryers, and that they pay high wages for the labor employed in manipulation. The English and Germans manage more wisely, and employ chemists to test constantly the fertilizers they use. But chemistry is at best a mysterious science, even to its devotees. It is therefore best for the farmer, whose slim margin of profit will bear no clipping down, to adopt that plan for securing nitrogen and phosphate which offers him these at least expense and with greatest certainty. This plan has been often indicated, and that, too, by English as well as American writers, and possibly on the ground that the violent action of vitriol in dissolving bone may be at the expense of a portion of its efficacy. But granting that it performs its office without injury or loss of the valuable fertilizing elements of the bone, the plan alluded to not only preserves to a certainty the full natural value of the bone's agricultural constituents, but also largely increases the farmer's manure stock, giving him the very best and cheapest kind of plant food accessible, while he keeps in his own pocket the extravagant cost of manipulation which the professional manufacturer makes him pay.

Grazing cattle and the growth of the cereals for a series of years have extracted the phosphate from the soil, and, unless this is restored, of course production diminishes. The phosphatic agent required is readiest found in bone, but the bone under ordinary circumstances goes to pieces with annoying tardiness. Heat makes it friable; this heat the farmer's manure-heap furnishes him, and by composting unfermented manure layer for layer with bone, and coating the whole with a sufficiency of dry earth, he can do without the vitriol and save the expense of its purchase. It would probably be best to shed such a compost heap from the weather.

Commercial and Barn-yard Manure Combined.

Experiments have been made with manure and commercial fertilizers separately and in combination by members of this Club, proving to the satisfaction of all that manure is markedly superior in its results to the best commercial fertilizers, and that the use of both together produces effects greater than where used alone. The base of the best commercial fertilizers being bone, the members of this Club need no additional proof to enforce the advisability of employing the above-indicated plan of combination, both on the score of economy and efficiency. The inducements for pursuing the policy advocated in the article just read—namely, that of keeping more stock,—are numerous. It is less laborious, and yields a greater return for the labor expended. It does away with the interminable cropping, and permits the land to accumulate vegetable matter. It furnishes the farmer with the foundation for his prosperity, with almost the sole condition of his success—an abundance of rich manure. All signs forebode an era of distress for the farmer; let him look for succor to keeping stock, and thereby restore the lost fertility of his lands. The East of this country will rise to prosperity if all the products of the farm are fed at home. The passion for trundling off to market all the products of the land is executing its own vengeance.

Feeding is plainly the best policy for the farmers of this section. The West may afford to indulge the temptation to send off from the farm whatever will give a slight profit above the cost of production and transportation, but farmers of the East must reverse this practice and make Mr. Harris' suggestions the basis of their operations.

Home-made Super-phosphates.—N. R. Miles had tried the power of fermenting manure on the carcass of a dead cow. Resulted: not a vestige of undecomposed bone to be found.

S. M. Price.—They save all the bones which accumulate about the premises, break them up, and fill into barrels with alternate layers of ashes.

Mr. Jno. D. Matthews thought that in the remarks above quoted a great many important elements in commercial fertilizers had been ignored. He pursues the same plan for disintegrating bones mentioned by S. M. Price.

The Club hereupon adjourned to meet at the residence of Jos. Bosley, March 20th, 1875.

Baltimore County, March 13, 1875.

T. G.

Our French Letter.

The Fat Cattle Show—Cattle Exhibited.

Messrs. Editors American Farmer:

The fat cattle show just held here, illustrated the very rapid strides being made by French agriculture; it is a march in seven-league boots. This exhibition is under the auspices of the government, and its aim is to encourage the breeders and fatteners of stock to produce rapidly, and at the least expense, the largest quantity of meat, and of a quality suited to consumers. It is thirty-one years since this official show was founded; till then the production of butchers' meat was left to chance; cattle were reared for labor and milk; sheep for their wool; meat was only a superaddition; the animal was slaughtered because it could no longer furnish anything else. To-day, for many races of cattle, the problem is reversed; meat has become the principal object; milk, butter, cheese and wool are but accessories. People eat more meat and less bread, and while the price of the latter has remained nearly stationary, that of meat has more than doubled. French native stock has numerous defects, and it was essential to show the farmer, animals possessing superior qualities, new types to serve for model crossings. It is thus, that in Nivernais, the Durham-Charolais has taken the lead in remunerative breeds. The ox which obtained the prize of honor on the present occasion, was of this race, aged five years, and weighed twenty-two cwt.; a fat cow of the same race obtained a prize, weighed fifteen cwt., and was four years old. The plan of awarding a prize for a group of animals of a common breed, is very successful. The Norman ranks next to the Nivernais, but its flesh is superior in point of succulence, the consequence of a difference in the pasturages. "Tell me what you eat, and I will tell you what you are," may be considered as a true adage.

Sheep and Swine.

The display of sheep was superb, and in lots of threes. The Southdowns beat the Dishley-Merinos. The superiority is, perhaps, but an affair of locality, and in agriculture it is prudent

never to generalize too much. The pigs were, as usual, masses of fat; that which gained the prize of honor was an animal of the Middlesex breed, a twelve-month-old, weighing four and one-quarter cwt. Though less precocious and not so well formed, the Norman pigs are more in favor with consumers than English breeds.

Poultry, Butter and Cheese.

The display of poultry, living and dead, was perfect; here, at all events, France has no rivals. Improved hatching machines were exhibited and rewarded; better still, purchased. What is wanted in these machines is not capability to hatch the eggs, but to find a substitute for the mother's wings for the chickens, after the latter have picked their food. The show of butter was very attractive,—that from Isigny, Gournay and Bayeux distancing all competitors. The price of butter has tripled within thirty years, and progress in its mode of preparation has been equally as marked. There were three hundred and fifty competitors, and the jury had experts to taste the samples, fifteen of which were selected as worthy of prizes. Fresh samples of these fifteen were presented to the chief expert, who was made to turn his back to those selected previously, and marvellous to relate—for such a wonderful taste is so—he classified the new samples in their order of merit precisely as he had done the old! France exported in 1874, 37,000 tons of butter, chiefly to England and Brazil, representing the product of 400,000 cows, yielding fourteen quarts of milk per day. She imports 4,000 tons of butter annually. The exhibition of cheese was at a par with the butter, excellent respecting Roquefort, Brie and Gruyere, but the Camemberts were inferior. Associations for the manufacture of cheese—a plan of Swiss origin—are rapidly superseding the efforts of individuals, and prizes are awarded on this basis. France imports three times more cheese than she exports. One of the professors of the Agricultural College of Grignon exhibited models and diagrams of the various machinery and processes employed on the continent for making cheese and butter; it was a singularly interesting collection, which several foreigners vainly endeavored to buy.

Implements.

There was an exhibition of implements organized by the manufacturers themselves, comprising 1,000 exhibits. A steam cultivator by a French firm attracted much attention, because it was the first manufactured in the country. France, owing to the minute division of property, can never employ many of these implements; not more than fourteen are known to be in use, while Germany has 100 and England 1,200. As regards threshing and grain-preparing machines, France now manufactures such as good as the foreigner; mowing and reaping machines, however, must be imported. Sowing implements commence to be more and more favorably received; in the matter of ploughs, France cannot be surpassed in their variety, excellence and cheapness. The agricultural show at Nivernais, which has recently taken place, is one of the most important in France; it is the centre of the fattening district of the country; the farmers buy the lean kine, and in three months time the pasturages are so rich, the animal is ready for the butcher, yielding a net profit of 150 francs per head. Since the northern

districts have so much beet pulp at their disposal, they are competitors in purchasing stock to be fattened; so the rearing of cattle is rapidly becoming an important question for both regions. In the Nievre, the great aim is to have a race of cattle of the purest white, and of horses of the purest black. Foals with but a speck of white are thereby lessened in price by 150 francs.

Breeds of Sheep in France.

The discussions respecting the most suitable breed of sheep, are gradually terminating in favor of the necessities of each locality and the wants of housekeepers. An animal neither too large nor too small, of some 120 lbs. live weight when fat, is what best suits France. Shropshire-down legs of mutton, weighing some 25 lbs., are not suited for French families, but for establishments. M. Pluchet has been occupied since 1839 perfecting a breed of Dishley-Merinos for his own property, and has succeeded in obtaining an animal, weighing 60 lbs. at two years, equal to what he obtained from the Merinos alone, at three years, and he sells the fleece, weighing on an average 8½ lbs., dearer than when the shearings were from pure Merinos. M. de Behagne, of Dampiere, famous for his breed of Southdown-berrichons—now slaughters his lambs on his farm, and sends the meat per rail to a house in Paris, which cannot supply all demands, even at the price of 23 sous per lb. From November to May, 1873-74, he sold 868 lambs, which yielded him a net profit of 4,000 francs, without counting the manure and the refuse of the *abattoir*. The practice is extending for proprietors to kill their fat stock on the premises, and forward the meat to the best market. M. Van Kertsen, of Brussels, begs farmers to remember that superior stock is not to be obtained by merely having their cows covered by a Durham bull; not only must care be given in the selection of the sire, and also in the mother, but the food must be rich and abundant. Imported resist for a shorter period than native breeds, insalubrity and insufficient food, and where these conditions are violated in the case of Durhams, phthisis sets in, and which may extend to the fourth generation. For rearing, winter calves are best, as they thus escape the great heats, and there is more time to attend to them; in selecting, prefer such as have the body long, the back slightly arched, hair short and not curly; eyes large and projecting.

Feed for Horses and Other Stock.

A favorite and rather new kind of mash for horses is coming into use, composed of two quarts of oats, one of bran, and half a pint of flax seed. The oats are first placed in the stable bucket, over which is spread the linseed; add boiling water, then the bran, covering the mixture with an old rug, and allowing it to thus rest for five hours; then stir the mass well up. The bran absorbs, while retaining the vapor, and the linseed binds the oats and bran together; a greater quantity of flax seed would make the preparation too oily and less relished. One feed per day is sufficient; it is easily digestible, and is specially adapted to young animals, adding to their volume rather than to their height, giving substance to the frame. Professor Sanson reminds us not to overlook the food, the nourishment question, in connection with the amelioration of live stock. He considers oats, as so gen-

erally given to sheep, as objectionable, and approaching the unprofitable. Rams generally receive one pound of oats daily; ewes half that quantity. Oats; forming an exciting food, are especially suited for rams during the season when they serve, but for hastening the development of young sheep, they only build up the bones—not the flesh. It is the exciting property of oats that makes that food so valuable for horses in temperate climates. It cannot, then, be sound practice to supply young stock with what will make them restless, when it is well known that the tranquilly-inclined animal, rations being equal, will ever arrive quickest at the highest degree of precocity. Horse beans and oil cakes are preferable, as well as cheaper, for sheep. From experiments made at the experimental farm at Praskau, salt, when given to animals, induces them to absorb more water, effects increased changes of nitrogen, and a larger evacuation of urine. Although the weight of the animal be increased, such is only more water accumulated in the system; the appetite being sharpened by the condiment, more food will be consumed, but more or less digestibility is uncertain of the nutritive principles. The mineral matters of the food are, however, sensibly affected.

Scientific and Practical Notes.

M. Mayer, of Heidelberg, has concluded his experiments as to the absorption of ammonia from the air by the leaves of plants; theoretically, it is possible for the leaves to do so, but the air, as a source of ammonia, is of little practical importance. Besides, it is next to impossible to make plants live in an atmosphere artificially enriched with ammonia; the soil is the real source, and the roots the real agents, by means of which vegetation receives its supply of ammonia. The scientific farms or "stations" in Germany, have, since many years, controlled the sale of commercial manures; to equally prevent the farmer from being defrauded, they have now taken in hand the seed merchants, and will test for farmers the germinative properties of samples, and, above all, their exemption from foreign matters; in the case of clover this is very important where the seed of the dodder is so often to be encountered. Haberlandt demonstrates that the effects of frost on vegetation is in relation with the physical character of the soil; that which is driest will be the coldest, that which is friable and humid will be less so. The soil is as bad a conductor of heat as cotton. Late sowings suffer most from the lying bare of the roots by succeeding thaws, and not frozen, but covered for a long time with a layer of snow, suffer also most in this respect. Heiden's experiments indicate that, of all the articles of food given to pigs, bran is what is least utilized in its system, and that the aptitude of fatness is closely allied with race. Unhappily, this very aptitude is that which has the greatest tendency to degenerate. The new shears for sheep seems to be a favorite; it consists of seven steel blades, over which one passes and clips; it works rapidly and economically; can be easily repaired, and never wounds the animal.

Messrs. Despretz, in the north of France, have 1,485 acres devoted to the exclusive culture of beet seed, and daily employ 350 laborers. They have also a staff of chemists.

F. C.

Paris, February 20, 1875.

Sowing Buckwheat and Seeding to Grass.*Messrs. Editors American Farmer :*

I have had good success in sowing clover and timothy with buckwheat. My best stands of grass were sowed on the land immediately after the seeds were harrowed in for a crop of buckwheat; which here in Virginia should take place from the 25th of July to the 5th of August. If the land is low and frosty it should be sowed in July; if a warm quick soil, the first of August will do. The ground should be well prepared before the buckwheat is sown; use one-half bushel to the acre, then harrow it till the surface is level and fine; then sow the clover or timothy; if a mixture, about five quarts of clover and three of timothy, making one peck to the acre; six quarts of timothy will do. A mixture of grasses made by adding one bushel of orchard grass is good for grazing. After the grass seed is scattered it is well to roll, but have had success without. The young grass sown with buckwheat is shaded by it during the hot days, as it makes a very quick growth, and is harvested last of October, and the grass getting good root in the Fall makes a crop to mow the next year. A field of good wheat or oat stubble, may be thus sown to buckwheat and grass, and the second crop be more valuable than the first. Perhaps some of the readers of the *American Farmer* would not regret using part of the land designed for corn, to grow first an oat crop, (which will doubtless be valuable to send to market in the straw, as the hard winter is consuming so much fodder) and then sow to buckwheat and grass. Or if they have no corn land to spare, suppose some piece of low land, or bottom overgrown with bushes, briars and weeds, is taken and prepared as best they can for oats, and when they are taken off better fitted for the buckwheat and grass.

O. M. DUNCAN.

Northumberland Co., Va.

Cultivation of Corn.*To the Editors American Farmer :*

As the time is fast approaching to plant corn, the king crop of Maryland, I take the liberty of offering you briefly my views and practice in preparing the ground, which I will preface by saying that, in my opinion, there is not *one acre in ten* that is put in the best condition before planting, to produce the best crops the ground is capable of. Whether the land is in sod or not, if it be *stiff soil*, by all means it should, if possible, be plowed in the Fall, so as to give it the benefit of being pulverized by the Winter frost. Early in the Spring, or as soon as the ground is in a condition to be worked, taking especial care not to touch it when too wet, harrow and cross harrow with a heavy harrow, and plow it with the double shovel. If a sod has been turned down, the double shovel will not disturb it; then harrow again. For the last harrowing the "Thomas smoothing harrow," loaded with about 100 lbs., is best. By this time the ground will be found in a condition to be planted in garden vegetables. When the time of planting comes, lay off the furrows *deep*, but be careful to cover the corn *shallow*, especially

in *stiff soil*. One and a half inches of clay soil is quite as much as a sprout of corn can well penetrate, particularly if the ground gets baked before it comes up. I prefer, even in rich ground, to fertilize in the hill pretty liberally; it gives the plant an early and vigorous start. For this purpose I make a compost or mixture of two parts of a standard super-phosphate such as Andrew Coe's, and one part of ground plaster, well mixed by running it through a sieve, and put about 250 or 300 pounds to the acre, *being careful to scatter the fertilizer*. The ground plaster fixes the ammonia and prevents it from burning the plant, which it is liable to do, particularly in dry weather.

In conclusion, I will remark that although the harrow is a most efficient implement in the proper preparation of ground for all crops, and is so very cheaply operated, it is but seldom used sufficiently to put ground in the best condition *BEFORE* planting, to bring out the best crops.

If you shall consider this worthy a place in the columns of the *American Farmer*, I may follow it up in time for the May and June numbers, with my *mode of cultivating corn*, which differs very widely from that practiced by a large majority of Maryland farmers, which I consider very "bad practice."

Very respectfully,

L. W. G.

March 13th, 1875.

Note.—When I plow ground in the Spring or Summer, I invariably follow the plow with the harrow twice a day, so that at noon and night all that is plowed each day is harrowed at night, and there is but little time lost in changing the horses from the plow to the harrow.

The harrow pulverizes fresh plowed ground thoroughly, whereas a single day's hot sun upon *stiff clay clods* bake them so hard that the harrow will not break them fine. I use Thomas' harrow, loaded.

[We hope our correspondent, who is a very successful corn-grower, will favor us as proposed. —Ed. A. Far.]

Winter Pasturing.*Messrs. Editors American Farmer :*

I am pleased with the Feb. No. of the *American Farmer*, and think the different opinions and experiences will all aid the reader in coming to right conclusions. New with regard to pasturing in winter. I think it is done too much here for the good of next crop, and too much is allowed for what is got in that way for the good of the stock. If the after-growth is large, some grazing when the soil is not too wet will do; but this allowing meadows and clover fields to be grazed all winter because they are not covered with snow, is the cause of no better success in harvest. One of my neighbors sows clover nearly every year, and usually has a pretty good stand in the early Fall, but by allowing the stock to go on all winter there is less protection from frost, and many of the young plants are pulled out by the cattle during the days when the ground is soft—thus injuring the future crop. I, too, have suffered loss by this

injudicious grazing. I am glad to know from experience, that good crops of clover and the grasses can be grown in the Northern Neck of Virginia, having raised some larger crops of timothy than in New York State, and I believe an increase of grass-growing, and the keeping of more and better stock, will greatly benefit this country.

O. M. DUNCAN.

Northumberland Co., Va.

Farmers' Club of Baltimore County.

At a meeting of the Farmers' Club of Baltimore county, on the 3d of February, held at the house of S. M. Rankin,—the proper time for cutting grass and the best method of curing hay being the subject of discussion,—one important fact was elicited, that, by a liberal use of salt when putting away our hay crop, the quality of the hay as food for stock was much enhanced, and that for market it retained a much brighter cast; and the weight was considerably increased by the absorption of moisture from the atmosphere. The test had been made in barns, as also in stacks.

At the meeting of the club held at the house of C. M. & E. Jessop, on the 3d of March, James Atlee, John G. Booth and John Conklin were appointed a committee to ascertain and report what farmers could realize per gallon for their milk, by the co-operative system of dairying.

A committee previously appointed to prepare a history of the club, submitted the following as their report, which was ordered to be furnished to *The American Farmer* for publication.

S. M. RANKIN, Secretary.

At a meeting of farmers held at Sweet Air about the first of February, 1870, N. P. Hutchins, C. T. Haile, John S. Baldwin and S. M. Rankin, were appointed a committee to frame a constitution and by-laws for the government of a farmers' club, which it was determined should be called "The Farmers' Club of Baltimore county."

After preparing the constitution and by-laws, a permanent organization of the club was effected at Sweet Air on the 19th of February, 1870, by the election of the following officers for the ensuing year: N. T. Hutchins, President; John S. Baldwin, Vice-President; S. M. Rankin, Secretary; Edwin Jessop, Treasurer. On motion of J. S. Baldwin, it was resolved that this club hold their meetings on the first Wednesday of every month, at each member's house as his name stands on the roll—the roll then containing about sixteen names. It was determined to hold their first regular monthly meeting at the house of N. T. Hutchins, his name being first on the list. The club met at the house of N. T. Hutchins on the 2d of March, 1870,—all the members present except three. The day was spent in social intercourse, and in a free and full discussion of all our farming interests. This club has continued to hold its meetings on the first Wednesday of each month up to the present time. In June, 1870, the club lost one of its members by death; in July of the same year, two names were stricken from the list; in August, 1870, one member resigned; in December, 1870, three names were added to the list.

On motion, it was made the duty of the President at each meeting to appoint a committee of

three to select a subject for discussion at the next meeting. On the 6th of March, 1872, it was resolved, that at each meeting of the club, one of the members, in order as their names stand on the roll, shall be required to read an essay, either original or selected, on some subject relating to agriculture. In December, 1872, one member was stricken from the roll, and another was added thereto; in September, 1874, another member died. Since that time one member has been added to the list, which contains about fifteen members at the present time.

Within the last year it was resolved that the member at whose house the meeting is held, shall give a statistical report of his farming operations. It is with pleasure that we state our organization is in a more prosperous condition than it was, from the fact of its meetings being better attended, and the greater interest evinced in the cause of agriculture, by the attendance of members.

We congratulate the members upon this occasion, it being the fifth anniversary since our first regular monthly meeting. (Signed,) N. T. Hutchins, John S. Baldwin, C. T. Haile, committee.

Keeping Farm Accounts.

To the Editors *American Farmer* :

My plan for keeping farm accounts is extremely simple, and easily understood by any one. I use an ordinary account book, ruled as in sample sent, about 8x13 inches, of say 250 pages, costing \$1.50 to \$2.00. The index I put in in the same way that we see it in regular account books. I have one with index in, all ready for use. I first leave forty to fifty pages for "Farm Account," in which I charge the farm with all fertilizers, stock, implements, labor, tools, seeds, flour, feed, blacksmith and wheelwright work, etc., etc., purchased, and, in like manner, give the farm credit for hay and grain crops, potatoes, fruit, beef and other cattle, hogs, sheep, calves, butter, wool, vinegar, etc.,—everything that is produced and sold from the farm.

The other part of the book is left for individual accounts, for all I may deal with, whether for cash or credit. In this way many entries are made twice, both to the party dealing and also on farm account. For my farm hands and domestic help, I have a separate book (small,) and ruled to suit; large enough to last one or two years, and label it "Farm Hands Account Book, 1874 and 1875." At the end of the year all can be posted up in one or two long evenings, and entered in the farm account, which will show where we stand with ourselves and the rest of mankind. In this way I can refer to any time in the past twenty-four years, and tell just how much I sold my wheat for, and how much the fertilizer cost each year; what wages was paid to hands, &c. I make it a point never to file a bill until it has been entered in the proper place.

I would recommend all farmers to keep some plain system of accounts. It will be found, with system, to be very little trouble, and a great satisfaction. If we do advance, let us know it, and how much; if we lose, it will show where the leaks are. I would not abandon my system of accounts upon any consideration; to me it is a great satisfaction to know just what each year can show; I also have a few pages set apart to

note down experiments. I hope I have made myself intelligible, and induce some brother farmers to keep farm accounts. Very truly yours,
P. T. STABLER.

Montgomery Co., Md., March 16, 1875.

EXAMPLES.

FARM ACCOUNT.		Cr.
1874.	By 2,000 lbs. Hay @ \$1.15.....	\$ 230 90
Jan. 21	62 bus. Potatoes @ 80 cents.....	\$49 60
Feb. 4	1 1/2 " " @ 70 ".....	1 65
" 23	62 bus. and 50 lbs. Wheat @ \$1.80.....	113 10
July 6	52 " " 18 " Corn @ 35 cents.....	44 48
1875.	2 Cows, for Beef.....	59 80
Nov. 11	3 bbls. Apples @ \$3 and \$1.75.....	6 50
Dec. 11	2 calves @ \$7 and \$5.....	12 00
JOHN SMITH.		
1875.	By Cash to balance account.....	33 40
Aug. 30		
THOMAS BROWN.		
1874.	By Cash on account.....	\$35.00
Dec. 30		
1875.	By Cash to balance account.....	14.00
Jan. 27		
BENJAMIN LEWIS.		
1874.	By Cash to balance account.....	67 00
July 18		
FARM ACCOUNT.		Dr.
1874.	To 107 lbs. Mill Feed @ 25 cents.....	\$ 26 75
Aug. 1	1,571 lbs. Kaint @ \$36 1/2 ton, and drayage.....	192 00
Sept. 25	6,400 lbs. Guano Phosphate @ \$40 1/2 ton.....	12 80
Dec. 1	1 car of Shells, 805 bus., @ 3 1/2 cts. 1/2 bus.....	18 03
1875.	2 1/2 bbls. Flour @ \$7.40.....	7
Mar. 24	To 13 bushels Seed Oats @ 55 cents.....	
JOHN SMITH.		
1875.	To 4 bushels Cloverseed @ \$6.55.....	\$27.40
Feb. 26	6 " " Seed Potatoes @ \$1.....	6 00
Mar. 26		
THOMAS BROWN.		
1874.	To 12 bbls. Corn @ \$3.25.....	39 00
Nov. 28		
BENJAMIN LEWIS.		
1874.	To 1 Steer, 1,590 lbs. @ 5 1/2 cents.....	67 00
June 30		

Times and Prospects in Virginia.

To the Editors American Farmer :

Knowing your interest in any improvement in our lands, you will, I know, excuse my writing you of a visit to an adjoining county, among the sterling sons of my earliest friends, from which I have just returned, and among whom I had not been for many years, when they all seemed so sadly oppressed. Then their fields seemed impoverished, their houses dilapidated, their crops

meagre, their stock fast disappearing under the salesman's hammer, and their energies totally paralyzed. But *now* how great the change to cheer the patriot's eye! Their fields well enclosed or being made so; more new rails than I have seen on any previous ride; great improvement in their houses, yards, gardens, crop and stock and tobacco-plant beds. Everything all along the road seemed fixing on an advancing scale of peace, prosperity and happiness. I remained in the county for five days; saw many of the neighbors; went to the court-house on court day, where I saw as good a collection of well dressed, cheerful and perfectly sober people as I have had the pleasure of seeing anywhere. During my ride to the court-house, my stay there and my return, I do not think I saw one man who seemed to have taken a drink of what I have on other occasions seen so freely sold from barrels, runlets and jugs, to the demoralization of many, and where I once saw a most cold-blooded murder. The people seemed cheerful, friendly and more hopeful. There I heard of one man, who, last year, was so in debt, he tried in every way to sell his dear little home at \$1,500, to pay out and move off on, but could not get a bid at any price. He resolved that, with his two sons, he would go to hard work and do the best he could, and, on that day, he received an account of sales of his tobacco crop, and a check for \$1,300,—the net proceeds of his own and his two sons' year's work in the tobacco crop alone! Within two hundred dollars of what he begged others to give for the entire farm! his debts paid, and his family saved a snug home in the dear old homestead of his father and his own childhood's years. He and his sons and his friends all cheered and emboldened to press on and strive to do far better on the coming crop.

This isolated case, I trust in God, may and will be followed by many more like unto it. If he has done this, why can't others do likewise? All who will, can. Then let all go to work and strive to do so too, and those all over our whole country will feel, see and enjoy the changes.

It is useless folly and idle vanity in a Virginian to move anywhere, hoping to find some place where he can live and thrive without work. If he will zealously go to work, and honestly and faithfully press on, there is no place on the globe better adapted to every want of man than this, our dear old native land of Virginia. Instead of thinning out, let us all go to work to thicken up. Give us money and labor, and Virginia will soon be Virginia again. A few good crops of tobacco, and at present prices, with a few acres in grass, and a few sheep to each farmer, (and a resolve to kill or tax every idle dog) with bees and poultry, cheese and butter from the hands of wives and daughters, and the current of money will begin to glide along amongst us all. This of itself will do more to attract good men from everywhere than all the immigration societies our befuddled politicians can ever create or manage.

As illustrating the present spirit, I will cite a recent incident:

Some time since I heard a gentleman ask five friends to join him in a drink. By some it was joyously received; one more thoughtful called a halt, saying, "these drinks will cost ninety cents,

which would buy nine pounds of sugar, and would give good cheer to his wife and daughters for two weeks in nicely-sweetened coffee, which ought to give our friend far more real pleasure than for us thus to destroy it in half a minute, without one single good result but to its heartless vendor." I said, "add to drinking, chewing and smoking by all, and it would furnish a good supply of family groceries, or pay the taxes for one year, and thus hush up our grumbling repudiators. "Fondly trusting these good seeds might be properly cared for to the good of us all, I believe and most fondly hope dear old Albemarle county is surely on rising ground. And why not, with her productive soil, pure water, invigorating climate, intelligent and refined citizens, Christian churches, unalloyed by corrupting dissensions; many flourishing private and public schools, and one very large one, now about being erected upon the solid basis of a nine hundred thousand dollar legacy from one of her poor orphan boys of sixty years ago, and last, though far from least, our University of Virginia, with her three hundred and fifty to four hundred good representatives from almost every part of our lately so disorganized and sorely disturbed country. Of these most promising representatives from all parts of our country, it has been my good fortune to see and know very much, during the present session, and in their evening walks to and from Charlottesville, I have yet to see the first one go into or come out of a drinking saloon, or see or hear anything from any one of them which could be objectionable to their mothers, sisters, sweethearts or ministers in their parlors or churches. A more refined, gentlemanly and studious set of young men never adorned our university at any previous session, and a few more sessions like this will so thoroughly establish its good reputation as to dispel every anxious mother's care as to the fate of her darling son, about to be entrusted to its training for a good, great and useful man, to the honor of his own name and the good of our needy country.

I have thus briefly endeavored to bring before the readers of the *American Farmer* these little sectional and general improvements, knowing straws show which way the winds blow, and fondly hoping these little events do cheerfully indicate yet greater and more glorious events to our whole country. Most truly and sincerely your old friend,
 Albemarle, Va. GEO. C. GILMER.

Wicomico Co. Agricultural Society.—At a meeting of farmers, held at Salisbury in January, an agricultural society was formed, and the following officers were unanimously elected: President, Milton A. Parsons; vice-president, J. A. Taylor and R. P. Darby, of Sharptown; R. D. Robertson and E. M. Waller, of Barren Creek; George W. Hitch and George Waller, of Salisbury; E. J. Pusey and H. N. Crawford, Quantico; B. B. Gordy and J. B. Perdue, Parson's; W. W. Disharoon and I. H. A. Dulany, Trappe; James Laws and James Duncan, Dennis's; R. C. Mitchell and Ware Wainright, Tyaskin; Henry Mitchell and Wm. Atkins, Pittsville; J. H. Shockley and Wm. Twilly, Nutter's. Secretary, A. L. Richardson. A committee was also appointed to draft a constitution and by-laws, and to report at a meeting to be held subsequently.

Agricultural Calendar.

Work for the Month—April.

Up to the time we write this—March 18—we have had little weather that would permit April work to be done in March, and with the thermometer at 18° at sunrise, it is probable in this latitude that much March work will be left to be done this year in April.

Oats ought to be gotten in the first days it is practicable. Remember our injunction, to do better by this crop that it may do better by you.

Barley, also, should be sown as soon as may be. It needs a good, mellow loam, well plowed and in good tilth. This grain will not grow on wet, undrained lands; nor are green, rank manures suited for it. Thoroughly rotted composts, super-phosphates and ashes, are recommended. Many practice rolling the fields when the plants are a few inches high. Two bushels of seed are usually sown to the acre.

Drains and Ditches.—Be especially careful about these being kept open, that no surface water may accumulate on the grain fields.

Sowing Plaster.—This ought to be done as soon as a team can go on the land. From one to two bushels per acre is generally the quantity sown.

Harrowing Winter Grain.—This is now very much practiced, and generally with abundant satisfaction. We have used the Thomas harrow for this purpose, and found it very effective. The operation ought to be performed early and before the ground becomes too dry.

Sowing Grass and Clover Seeds. Where this has not already been done, it should be one of the first things attended to. We refer to earlier issues for some suggestions on this subject. When the seeds are sown on grain fields it is advisable to roll as well as harrow, performing the last-named process first.

Potatoes.—While it is advisable to plant early, it is much preferable to wait if you can thereby get the ground in better condition. Good preparation is a point gained in their successful culture. Keep the ground well worked and loose, and never permit the surface to become crusted over.

Corn Culture.—The key-note to success in this is thorough preparation of the land and plenty of manure. Perfect pulverization before planting is much more serviceable than workings after; and to obtain the best returns from the land you must put the material on it, if it is not already present. The crop loves rich manures and will stand any quantity of them, none perhaps being superior for the field than those from the barn-yard or well-rotted composts, whilst for the hill some more concentrated material is better suited, as super-phosphate, bone dust, ashes, or a mixture of hen manure, plaster and salt.

The mode of planting depends on the character of the seed, the nature of the soil, &c., and the customs of the section; but, as a rule, land, rich or heavily manured, will, of course, bear closer

planting than poorer soils. We shall have something to say in future numbers on the cultivation of this crop, and we can do our readers no better service at this time than to refer them to the suggestive article on preparing the land and planting the crop, which will be found elsewhere in this issue, from our correspondent L. W. G.

Corn for Soiling.—We recommend a patch of this, however small. We are confident that those who at first try it on even a very small scale will thereafter find it practicable and desirable to enlarge their production of it, so "handy" will it be found in mid-summer, especially if a droughty season shortens the pastures. Sow in drills about three feet apart, and run the cultivator two or three times through the rows. The ground ought to be in good order. For curing for winter, early sowing is desirable. For this purpose it should be cut when in full tassel. We hope the coming season some of our readers will try the plan for preserving green fodder practiced on the European Continent, as described in the letter of our French correspondent, and report the success attained. There seems no reason existing why this system should not succeed here, and if once found profitable it will be of the greatest advantage not only to our dairy farmers but to all others.

Root Crops.—The land for these ought to be deeply plowed, thoroughly fined and abundantly enriched. On stiff clays long stable manure is an advantage physically to the soil, but the best applications are bone dust and superphosphate, or thoroughly decomposed manure and composts.

Mangel Wurzel and *Sugar Beets* ought to be sown as early as possible after the danger is past of having frost kill the young plants. About three pounds of seed are needed to the acre, and the best plan is to sow by a drill in rows two and a-half feet apart. We have used for several seasons the "Planet drill" advertised in our supplement, and find it works very regularly and satisfactorily. As soon as sufficiently large to be conveniently pulled the plants ought to be thinned to stand 8 to 10 inches apart for beets, and say 12 inches for mangels.

Carrots, probably, are more nutritious than any of the roots grown as farm crops, but the difficulty in their early stages of growth of keeping them free from weeds, requires considerable labor, and makes the cost of their production somewhat greater than other roots. For horses and mules they are very serviceable in winter, and for use as an alternative food and condiment, are valuable. The soil best adapted to them is a rich sand or light loam. The ground ought to be well plowed and repeatedly harrowed. Sow the seed in drills of 20 to 24 inches, and thin the plant to stand 6 or 7 inches apart. A good plan is to mix some radish seed with them, which, quickly coming up, will mark the rows so that they can be worked before the carrots are in sight, and thus get ahead of the weeds.

Parsnips.—These roots are nutritious and fattening for either cows or hogs. They are also much esteemed as a table vegetable. They are given the same general treatment as carrots, but should have a little more space in the rows,—say stand about 8 inches apart. For all root crops keep the ground constantly and deeply stirred.

The Poultry Yard.

Why High-Priced Eggs do not Hatch.

To the Editors of the American Farmer:

The general drift of every article on this subject that has come to my notice for some time past, has been to lay all blame upon the want of care in handling by express men. Now I do not propose in this article to exonerate or in any way justify express agents in the rough manner in which this class of freight is frequently handled. When a box is received by them marked "eggs for hatching—handle with care," they accept the conditions, and it is an imperative duty upon their part to faithfully comply therewith, and to the extent that they frequently violate this duty many of us can testify who have received boxes so marked, broken or badly damaged. Now that this has a great deal to do with the non-hatching of eggs, and that eggs shipped by express do not, as a rule, hatch so large a percentage of chicks as if hatched on their own yards, no one will question; but experience has taught me that this is not the sole cause of failure. I have at various times received two varieties of eggs in the same box, one variety hatching well, the other not producing a single chick. Now these circumstances, coupled with my experience amongst my own fowls, have confirmed me in the belief that part of the blame at least can be laid at our own doors, and, where a single cock is confined with a number of hens, may spring from one of the following causes: 1st. The cock may be worthless as a breeder. 2d. He may acquire a fondness for a particular hen, and neglect the balance of the flock. This is often the case where fowls are confined in small enclosures, and the only remedy is to discard his favorite hen. 3d. The fowls may become too fat and thus impair the fertility of the eggs, and frequent handling is the only way to detect this. 4th. Fowls crowded in too close quarters. When kept in this condition, cocks frequently become lazy and sluggish, and eggs rarely, if ever, hatch so well as where fowls are allowed plenty of range for exercise.

To avoid one and all of these troubles requires on the part of breeders a constant watchfulness. Don't neglect your flocks, and only find after having shipped eggs all over the country, that your eggs are not hatching.

Now a word to purchasers of eggs: don't expect to buy a dozen, and get a dozen chicks. We read these marvelous reports of hatching of eggs sent from Maine to California; but bear in mind, we hear but one side, and that the small side too. If I can from a setting of eggs brought any great distance raise a pair or two of good chickens I am satisfied; of course I have frequently done much better than this, but when I do no worse I have the satisfaction of knowing I have my chickens at a less cost than I could purchase them of a reliable dealer *New Oxford, Pa., Feb. 22d, '75.* W. A. MYERS.

Remember that a varied diet is natural to fowls, and is especially desirable when they are confined to a limited range.

Brown Leghorns in Town.*Messrs. Editors American Farmer :*

Many town people could have a few hens if they were enough interested in them. I happen to be a little better fixed for it than my neighbors, as I have a lot about 60x60 feet back of my house, but the room that I have to give to my twenty hens for a roost is no more than many could give them. This house is 4x6 feet and 7 feet high, with three shelves of about 20 inches wide across the 4 feet way, except the top shelf which makes an L by continuing along one side, which will give plenty of room for thirty Brown Leghorns. I had to see that they did not all get on one shelf for one or two nights, but now they know their roosts and each goes to her own.

I got my chickens about 10th December, 1874, twelve hens and eight pullets, so small that they did not look as though they would lay until Summer. From January 1st to February 1st the twelve hens gave me 145 eggs, and from February 1st to March 1st, I got 275 eggs; the pullets that I thought were too small to lay having grown so much that I could not tell them from the hens, and they were laying too, which for the cold winter we have had is as much as I expected from them, and I think will show well with any breed, though I will give you some day an account of the laying of Dark Brahmas, Light Brahmas, Houdans and Black Hamburgs for the first six months of 1874. I wanted eggs, so got the Brown Leghorns, and also because their plumage always looks bright and fresh in town, and if they got into the street it would have to be an active boy that could catch one and carry it off. I have so many rats and cats about, I am afraid that I cannot hatch any chicks, and will have to get some of my country friends to do it for me for some eggs.

J. D. O.

Baltimore, Md.

NATIONAL PIGEON SHOW.—The National Columbian Society held its annual show in New York city, from February 25 to March 3d, and was very successful in the interest manifested. The exhibition was free to all visitors. There were over three hundred entries, and the competition was very spirited. The society decided to hold its next annual exhibition in Baltimore, from January 12th to 19th, 1876.

The Apiary.**Spring Feeding.***To the Editors of the American Farmer :*

The month of April is an important one in the Apiary; for, although no honey is stored before May, the eggs which are to produce the workers, on the number of which the success of the season depends, are all laid during this month. Queens in hives that have plenty of honey in combs, often will not lay to any extent before the bees begin to bring in honey from outside, in which case the greater part of the workers are not old enough to gather honey until the main crop is over; so that, instead of being producers, they are

consumers only. To prevent this, spring feeding is a necessity almost, in this climate.

The best feed is clear, good honey, but if you have not this, a very good and much cheaper substitute is syrup, made from the best quality of coffee sugar, to which water enough should be added to bring it to the consistency of honey, and which should be boiled for a few minutes, and the impurities which rise to the surface skimmed off. Fill an ordinary stone ale bottle with this, and tie a piece of rather thin cotton or linen cloth over the mouth; then make a hole in the top of your hive large enough to admit the neck of the bottle, and put it in, mouth down; the feed will run out only as fast as the bees consume it. Begin this feeding early in April, and continue it until flowers yield abundantly.

It is very important not to let the feeder be empty for a single day, as the brood will often be destroyed if the feed runs short, and the previous feeding will be all lost. But if it is faithfully attended to, the cost of spring feeding will be returned a hundred-fold in swarms and honey.

Howard Co., Md.

D. M. WORTHINGTON.

The following suggestions are from Mrs. Tupper, a well-known bee-keeper and authority :

The impression prevails that the winter is the best time in which to move bees from place to place. In our opinion this is not correct. We prefer to move them at almost any other time. If it must be done at this season, a warm instead of a cold time should be chosen, and at the end of the journey it is best to put them at once into a room or cellar quite warm and dark, unless the weather is so mild that if left out of doors the bees can fly.

A neighbor moved ten colonies in a very cold day last winter, putting them, when he reached home, into an out-door building. Many of the bees were lost, and the remainder had dysentery, so that but two or three were saved out of all the ten colonies. Had they been put into a warm room until the agitation was over, the loss might have been avoided.

The principle is obvious: The bees, when disturbed and alarmed, filled themselves with honey, the cluster was disarranged, and the bees scattered through the combs. In a warm room in the dark, the agitation would have subsided and the cluster become perfectly calm; but left exposed to the cold, the scattered bees being full of honey, all perish.

From March to November bees can usually be moved any distance with safety, under proper precautions; but between November and March, only those who are well informed as to the principles that govern the matter, should attempt their transportation. We know bees are moved in winter, and moved safely, but it is purely accidental. If they have honey enough and bees enough for safe wintering, the chances are largely against their being moved well. If one knows enough to take the honey from them first, and feed them again judiciously afterwards, it may be done; though then all is greatly dependent on the weather.

The Charles county (Md.) Grangers have organized a stock company to carry on a tobacco and general commission business in Baltimore.

The Dairy.

Dairy Farming in Montgomery County, Maryland.

Messrs. Editors American Farmer:

Mr. Schofield has shown me his book with the weekly items carefully entered, from which I copied the summary herewith enclosed. It was not his intention to have his operations made public, having kept a strict account entirely for his own gratification. It is unnecessary for me to state that William J. Schofield is a gentleman of well-known integrity, and any statement made by him can be safely relied on. I will write a few remarks to accompany his report, if you can make use of any part of them, and I shall not feel at all slighted if they are not used at all, as facts and figures like his speak clearly enough, alone.

Yours truly,

FRANCIS THOMAS.

STATEMENT OF OPERATIONS.

Butter marketed.....	2,311 lbs.	
Butter used at home.....	169 "	
Number of cows, ten.....	2,480 "	
Average per cow.....	248 lbs.	
Gross sales of butter.....	\$1,120.48	
Commission for marketing @ 15 per cent. off....	168.06	
Net sales of butter.....	952.42	
Add 169 lbs. used at home @ 40 cts.....	67.60	
	\$1,020.02	
Deduct { Cost of meal.....	\$126.00	
{ Half time of milkman at \$30 per month.....	120.00	256.00
		764.02
Add { Eight calves sold.....	\$116.00	
{ C. Cheese sold.....	139.56	
{ Skimmed milk.....	47.09	
{ Pork credited to dairy.....	36.00	
	\$338.65	
Deduct commission for selling cheese and skimmed milk.....	27.97	
	\$310.68	\$310.68
Net proceeds of ten cows for 1874.....	\$1,074.70	

Mr. Schofield performs his dairy work with his own hands,—skimming, working and printing, winter and summer. He has no regular time for his cows to be fresh, allowing them to have calves as rapidly as possible. Thinks it almost as profitable to make butter in winter as in summer, and cannot afford to have cows remain dry very long. He has an uncommonly fine-looking herd of cattle, and some of his friends think he might have added nearly a hundred dollars worth of premiums to his gross credits if he had exhibited the whole at the county fair. Of the ten cows comprising the herd the past year, three were two-year-old heifers, with their first calves; the other seven were near about in their prime. Four of them are thorough-bred Jerseys; five are half and three-quarter grades, while one is a grade short-horn. Mr. Schofield, in this report, does not give his cows credit for the milk and cream used in his family, nor for two heifer calves kept at home to raise, which, he assures me, could not be purchased for a hundred dollars apiece. The account published in the *Farmer* did not include

160 lbs. of butter used in the family; as that has very properly been added to this report, it gives a larger showing than the other.

A Butter and Egg Convention

Was held last month, at Chicago, composed of delegates from all quarters of the country. Our city was well represented by gentlemen engaged as dealers in the business.

Mr. George E. Gooch, of Chicago, chairman of the reception committee, delivered the welcoming address, in which he declared that the magnitude of the interests represented by the association was not generally known by the outside public—interests whose returns run into the hundreds of millions annually—the production of the dairy, which this association was endeavoring to improve, and, in the aggregate, make to yield an increased revenue to the country at large. It had been remarked by an Eastern paper that if "Corn is King," butter is at least his royal consort. It is estimated that the production of butter alone, independent of the milk and cheese sales, is greater in the United States than that of wheat or provisions.

A resolution was adopted that the association condemn and discountenances the adulteration of butter with lard, and pledging its best endeavors to expose the fraud and sell it at grease prices.

A motion was adopted, after a spirited debate, providing for the appointment of a committee to consider the advisability of having a law enacted in the several States against adulterating butter.

A discussion followed as to whether the "coloring" of butter was considered adulteration, which was decided in the negative.

The convention adopted a resolution to cheerfully indorse and recommend any wooden vessel which combines uniformity, cheapness, lightness, durability and adaptation to the wants of the trade, and that will preserve butter and do away with the vexed question of extra tares.

The convention adjourned to meet in March, 1876, at Davenport, Iowa. Among the delegates who took an active part in the proceedings, was Mrs. L. D. Caldwell, an extensive egg packer of Chicago, who read a paper on the handling and packing of eggs.

American Meat for England.

Some of the English provision dealers, not satisfied with the careless manner in which the meats from this country, shipped to them, are selected and packed, have established packing houses in this country, where they kill and pack their hogs after their own ideas of rendering it as attractive as possible to their customers. Finding that the American trade persistently disregarded English tastes, the foreigners have set up their own establishments here, buying just the sized hogs they want, and putting them up after their own fashion. The effect will undoubtedly be to increase the consumption of American pork abroad; and we shall soon see it ranking on a level with, instead of thirty per cent. below Irish bacon. This affords a lesson not to be overlooked, that what is worthy of being done, should be done right. Our cheese exported at first was not made as well as it should have been, and the competition in England increased, and the error here was corrected

Live Stock.

Sheep in England—What they Accomplish.

To the Editors of the American Farmer:

In compliance with your request, I send some notes relating to sheep husbandry made during a visit last September to one of the model farms of England. They show that your ideas of the great importance of that branch of agricultural industry are fully shared by our elder cousins over the water. Indeed the most striking impression connected with farm topics left on my mind after that visit was, that the production of meat, chiefly beef and mutton, is at present the paramount object with the British farmer. Their agricultural statistics show an increasing amount of land laid down in permanent pasture, which is there greatly preferred. *Meat makes the money* now for the English agriculturist.

The farm referred to in the following notes lies in Oxfordshire, and comprises 600 acres under the direction of one agent. The proprietor, a wealthy owner of mills in Lancashire, possesses five or six thousand acres in the vicinity, which are let to other persons. He being a liberal gentleman and very kindly disposed towards Americans, I had, by his orders, a very courteous reception at his estate of Aston Rowant; and in his absence was indebted to his very able and intelligent manager, Mr. T. S. Jackson, for the opportunity of a thorough inspection of the farm. I found, in the course of the day, a great many things to interest and instruct the cultivator from this side of the ocean; but propose to confine my remarks to the subject of sheep. The whole being five or six hundred in number, were divided into three flocks, and, as meat rather than wool is the prime object, I was not surprised to find them mainly of the South-down breed. There were, however, a number of Hampshire-downs, which Mr. Jackson considers an improvement in some respects on the South-downs; also Dorsets, and I think some Shropshires. The average clip is about five pounds (washed wool, I presume.) They were all in very fine condition, and the division preparing for market was luxuriating in the turnip field; this flock, being enclosed in a space of about half an acre by a moveable fence, consumed the turnips before them, tops and roots, in the course of a day or two, and were then changed by a removal of the enclosing hurdles to fresh pasture in the adjoining part of the field; and so, by the time the whole field was gone over in this way, the sheep would be in the required condition for the market. This simple arrangement was effected with less labor than one might suppose.

The flock is an exceedingly prolific one, as will appear from the following statement, copied from a printed slip furnished me by Mr. Jackson, and which I have no doubt is perfectly reliable:

"Within the last fifteen months, 48 ewes belonging to the estate of Aston Rowant have produced 295 lambs, all of which are still living or have been sold fat. Forty-four of the ewes have each had three pairs, and most of them in less than fourteen months. Two ewes brought seven lambs each, viz: Two a few days before Christmas, 1872; 2 in June, 1873, and 3 in January,

1874. One ewe produced 8 lambs within fourteen months. Two of the lambs were sold for £5 at Easter. Yesterday the same ewe had four lambs, all of which are strong and healthy, and the mother doing well and in good condition. Twenty-one of the above ewes are Dorset; 27 are either Hampshire-downs or half-breeds."

(Signed,)

T. S. JACKSON."

Aston Rowant, March 12, 1874.

Under such management I was willing to credit the statement of profits made to me by Mr. Jackson, in reply to a question I ventured to put to him. The estate of Aston Rowant, it should be remarked, is not one that is carried on merely for profit. The lawn, shrubbery, conservatories and plantations generally, exhibit the exquisite beauty with which wealth and taste adorn so many places in England. Regarding them with intense gratification, and thinking of the amount of money required to keep up this display, I said to my worthy and intelligent guide, "I should like very much to know the pecuniary results of this style of farming in your country." He replied, "as you live away in America, I will tell you what I do not speak of in the neighborhood: my balance sheet shows, for last year, a clear profit of £1,800 (\$9,000), and," he added emphatically, "sheep did it!"

W. H. F.

Montgomery Co., Md., March, 1875.

Feeding Cattle.

At the March meeting of the State Agricultural Society, reported elsewhere, the question of feeding cattle coming up, Mr. R. H. Archer, of Harford county, said: I always get good cattle, looking more to their shape and good points than to any particular stock. Cattle-buyers say that a red-colored bullock always outsells any other color, although I would never object to a white bullock if he had a clear red-looking hide. I generally buy to fatten about seventy-five head during the year, but only have about half that number at one time, as I only have stable room for thirty-three. I put them in the stable as soon as grass is gone; but when the grass begins to decline in the fall, feed on corn on the ear out in the field; and then,—say about December 1st,—when the grass is gone, put them in the stable and feed on cob-meal, beginning on a small quantity and increasing till you can give them a half-bushel per day—that is what a steer weighing 1,200 pounds will eat—and no more; give it to him three times a day, and rough feed—say cut fodder or hay—twice a day; but at all times let him have as much as he will eat—that is if you want to fatten in the stable, but I would advise no one to let a steer go from the stable to market, but let him go on grass, say two months, and that will give him weight; and you can generally get as much per pound the last of June as you can in March or April. Cattle bought, say 1st October, weighing 1,000 pounds, ought to weigh in April 1,200 to 1,250 pounds, and if kept till 1st July, 1,400 to 1,450 pounds; that is about what mine weighed last year. When the great profit in stabling and feeding grass to cattle is in the manure, my opinion is that a farm can never be made rich without stable manure—nothing will do as a substitute for it. As I look around me and see where the farms are that

are rich, they are those farms that have cattle on them, such as Mr. Woolsey's, Mr. McIlvaine's, and P. H. Lee's, and others.

The Best Sheep for the South, and their Treatment.

Mr. C. W. Howard, in answer to a correspondent, who asks what breed of sheep pays best when you have a good range all summer, and a tolerably good one all winter, replies, through the *Rural Carolinian*, that the Merino crossed upon native sheep is the best; that the cheapest food is a rye or oat pasture sown in August, and that turnips, though more costly, are more valuable than rye on account of their enriching the land when the turnips are eaten by sheep in fold. To a North Carolina inquirer he gives the following advice:

Folding sheep on turnips will answer better on your soil and climate than with us. You have some sand: we have none. A soil not sandy to excess is the best for turnips, if sufficiently rich. On the day to which you refer, the thermometer was at thirteen degrees here, five degrees colder than with you. My turnips were, of course, frozen, but not injured thereby. My sheep are eating them now with avidity, and I am now shipping them by the hundred to the Atlanta market. This ought not to be done, as it is robbing the land, but necessity requires it. If only every other row be pulled up, the land still gets a heavy dressing of manure.

Ewes in lamb may be folded nearly until the time of lambing. They should then be removed to the lambing-yard, afterwards they should run on rye or other pasture, with a little meal given them daily until the grass affords a full bite. Rams should never be folded with breeding ewes.

It has been stated above that Merino bucks, crossed on our common ewes, make the best stock for the farm, as the commencement of a stock. This stock is advised, because there is less risk in it than in beginning with a flock of pure Merinos. These, if brought from a distance, must be acclimated, and severe loss often occurs in the process of acclimation. If one or two pure bucks die the first year, after having run with the ewes, it is comparatively a small matter. The loss is not felt, as the result is fifty or one hundred half-blood lambs, the weight of whose fleece will have nearly, if not quite, doubled by the cross. In four years there will be an acclimated flock sufficiently pure for farm purposes, and for the wool market.

For some reason the improved long-wooled sheep do not thrive with us, unless in very small flocks. This is to be regretted, as the lustrous wools of the Leicester and Cotswold sell actually higher now than that of the pure Merino. This arises from the demand for alpaca goods and what are called business suits. If I were called on to say what book would be now of most use to Southern landholders, I would say Randall's *Letters on Sheep Husbandry* at the South, to Governor Alston, of South Carolina.

Horticulture.

Maryland Horticultural Society.

The March meeting was held at Raine's Hall on the evening of the 18th, the attendance being very good and the proceedings animated; but the show of plants shortened by the low temperature. Mr. Chas. J. Baker had some double Chinese primroses, very fine cinerarias and lemons; Mr. John Feast, a beautiful display of camellias; Mr. Whitman, callas, pansies, violets, &c.; Mr. Brackenridge, cut flowers; Mr. Rasin, a basket of *mespilus japonica*.

The awards were as follows, Messrs. C. H. Snow, Chas. A. Oakford and J. Mowton Saunders being the judges: To John Feast, \$3 for best seedling camellia (Mrs. General Lee,) and honorable mention for well-bloomed camellias of older varieties; to Chas. J. Baker, \$2 for best six cinerarias; to E. Whitman, \$2 for best six pansies and \$1 for best six violets. Honorable mention made of W. D. Brackenridge for cut flowers and R. W. L. Rasin for Japan plum.

An article by a correspondent of the *American* was read on the subject of a hall for the Society, and the President read an address enforcing the necessity and advantages of such a building. Mr. Rasin presented plans for a hall prepared by Mr. Berg, an architect of this city, who estimated its cost, in an accompanying letter, at from about \$31,000 to \$39,000. Upon motion of Mr. Wm. B. Sands, it was ordered that these plans, together with those formerly presented from Mr. Neilson, and all papers on the subject, be referred to a committee of five, consisting of the President, the Treasurer and the three Vice-Presidents from Baltimore city, to examine the whole subject, ascertain what can be done, and report to the Society.

Capt. C. H. Snow, from the committee to wait on the peach packers, made a report. He said their response was not as favorable as he expected, but that their association was to have the subject again before them. The committee was therefore continued.

Mr. Wm. B. Sands offered the following resolution, which was adopted without dissent:

"Resolved, That the executive committee be requested to take into consideration whether it is not within the province and means of this society to give some encouragement and effective aid to 'The Flower Mission' of the ladies of Baltimore, whereby not only may its praiseworthy objects be advanced, but a wider love, appreciation and demand for flowers be created."

A spirited discussion was held as to the distinction to be made at the annual shows between the professional and amateur cultivators, and the executive committee was finally requested to report the premium list to the society at its next meeting, and to include as amateurs all growers raising plants or flowers *not for profit*, whether they keep gardeners or not.

Mr. John E. Feast read a paper, as appointed, on "Winter-blooming Window Plants," and some appropriate remarks were made on the subject by Mr. W. D. Brackenridge and Mr. Grove. The es-

say of Mr. Feast was carefully prepared and eminently practical, and was highly complimented. We regret that, at the present time, we cannot give at least some extracts from it.

Mr. John D. Oakford called attention to the fact that the corresponding secretary, Mr. John Feast, would respond with great pleasure to any inquiries addressed to him, by letter or otherwise, on the cultivation of plants, and he hoped members, or others, would not hesitate to invoke the aid of that gentleman's great skill and long experience.

The next meeting will be on the 15th instant. There will be a day exhibition at 2 o'clock,—the awards being made before the doors are open to the public,—and the meeting for discussion and business will take place in the evening. The subject will be "Plants for Bedding Out." The schedule of prizes is not yet published.

Tree Planting.

Setting with the Bark to the same point of Compass—Loss of Rootlets in Digging.

Messrs. Editors American Farmer :

Small items contribute to make up the sum of abundant success in tree planting as in other things; and the orchardist, desirous as he always is to secure early returns, will not fail to use all suitable means to secure that end.

It is the custom, we think, to plant trees of all sorts and sizes without regard to the position in which they originally stood, viz: the bark that stood to the north is as often turned to the south, and *vice versa*. This may not make much difference in one-year-old trees, but those of two years and upwards, in our opinion, receive injuries detrimental to both health and growth. When placed in a new and unnatural position, growth, to some extent, is doubtless lost during nature's process in changing the bark to suit the new exposure; as every farmer knows the bark to the north is materially different in texture, &c., from that exposed to the south; and the diseased and discolored bark on the south side of some young trees is probably caused by planting them with the tender bark that grew on the north side, or to the north, exposed to the hot sun of our summer months.

To be sure you are right when placing a tree in a fresh cavity, it will be necessary to mark the side which was exposed to the sun before removal, and place it exactly in the same direction; for otherwise, the circulation of the sap will be disturbed and growth impaired.

Destruction of Small Roots.

Nurserymen are, perhaps, somewhat excusable for the careless manner in which cions are removed; but farmers who are convenient to nurseries should have permission to dig their own trees, and those who grow their own cions have the advantage of taking up their trees in the best manner, and at the time they want them, with the roots intact and unbruised; and to do this, in addition to the mattock, the *spading-fork* should be used, by commencing at the extremities of the roots and gradually approaching the stem, crumbling the dirt away from the roots and carefully removing it with this useful

implement. By digging in this way the best radicles and rootlets are not left in the nursery.

Kewick Depot, Albemarle Co., Va. J. FITZ.

N. B.—It would seem too much like running into old ruts to frequently repeat suggestions as to the best modes of preparation and planting trees, although many new subscribers need advice and old planters neglect or forget the conditions most favorable to the life and growth of their young trees. To all such we would say, provide yourself with some standard work on fruit culture, and read the "*American Farmer*."

J. F.

Pear Blight.

Messrs. Editors American Farmer :

I see a great many able writers on the pear, its culture, and its blight. On the latter subject I have reflected a good deal, and have tried many remedies. I had a couple of young trees standing in my yard that had been blighting for five years, sometimes badly, and about the 15th of last March, I forked up the ground around the trees for about two feet, and then applied a mixture to each, of one quart slaked lime, one quart salt, one quart bone phosphate, and one ounce of sulphur, and hoed it in. After that there was not a blighted limb on the trees.

Of course this experiment is too limited to say whether the remedy is a sure one until it is further tried; and I write this in hope that some of the readers of your valuable paper will test it and let us hear from them. J. D. COOPER.

Greenville Co., S. C., February, 1875.

Deep Planting Peach Trees.

To the Junior Editor American Farmer :

Sir—I received your very kind letter of apology for not redeeming your promise last Fall to visit me and see for yourself the effect of my "deep hole" system of planting peach trees in "stiff soil." "It is never too late to do good," and as you say you "really want to see my deep planted peach trees," I renew my invitation with the hope that you will make me a visit the coming Spring, Summer or Fall.

I will be much gratified if some of the peach-growers will adopt your suggestion, and test the system by planting a few trees the present Spring. If any of your Eastern Shore friends should conclude to do so, I will repeat my mode of my planting, so that they need not make any mistakes. I dig the holes three feet in diameter, one and a-half feet deep; I lay aside carefully the surface soil; when I reach the yellow clay or sub-soil, I scatter that. First I raise a slight mound with surface earth in the middle of the hole and set the tree and fill up with surface earth, putting in sods and rubbish if there be any handy. I raise a mound around the tree 4 to 5 inches high. When the tree is properly set, I cut it down to from 12 to 18 inches,—never more than 18 inches from the ground is left. This *stump* will throw out from 3 to 5 vigorous shoots. The best 3 or 4 I train for the tree, which has very great advantages over trees the bearing wood of which is started, as it were, at the top of a pole five or six feet from the ground. By thus cutting

down the tree at time of planting, a much greater quantity of bearing, and more vigorous wood is obtained; the tree and fruit are not so much injured by the winds; the main stem is not exposed to the sun, which is very injurious to peach trees, and last, though not least, the fruit is much easier gathered from the low trees.

I expect to go to my farm about the last of this month, and I say again, Mr. Sands, come and see for yourself my peach trees, from one to six years old, all planted in "deep" holes, and be convinced of the advantage of the system.

Very respectfully, L. W. G.

Baltimore Co., Md., March 8th, 1875.

The Grape Phylloxera and the Yellows on Peach Trees.

Messrs. Editors *American Farmer*:

I have read with interest Mr. Wilkins' communication under the above head in your March issue. If Mr. Wilkins has traced any real connection between the Yellows and some root-louse on the Peach—which, from what I know of Yellows, I can scarcely believe, he has made a grand discovery. But even in that event I feel morally sure that there is no real connection between said insect and the Grape Phylloxera. I need hardly say I shall be glad to receive specimens of this peach root-louse, and that upon their receipt I will give you what light entomology may throw on the subject. Yours truly,

St. Louis, Mo.

C. V. RILEY.

[We hope that Col. Wilkins or some other of our friends who have the peach aphid in abundance, as Mr. Kerr for instance, will endeavor to send Prof. Riley some specimens.]

After the above was in type, we received from Col. Wilkins a box of peach trees, whose roots were infested with the aphid. He requested us to cause some of them to be delivered to Professor Uhler, of this city, an eminent authority in Entomology. Unfortunately, the jarring of the box in transportation, or the unpacking of the trees from the earth, had detached many of the insects, though we found specimens on each. On the roots of one tree, however, a great number remained; this was sent to Prof. Uhler, though, before its delivery, many of them fell off. Had it not been for this circumstance, we should at once have forwarded specimens to Prof. Riley.

Prof. Uhler has since been good enough to call upon us to say, that so far as the insect can be determined, when in its wingless state, it is the *Aphis chrysanthemii* of Koch, found originally living on the ox-eye daisy, and not the *Aphis persicae*.—Ed. A. F.]

Potomac Fruit Growers' Association.

Messrs. Editors *American Farmer*:

"At the March meeting the topic was—apples for the Potomac region. Major Williams named the following twelve varieties: 1, E. Harvest; 2, Maiden's Blush; 3, Summer Queen; 4, Wetherell's

White Sweet; 5, Smokehouse; 6, Hagloe; 7, Bullock's Pippin; 8, Milam; 9, Smith's Cider; 10, Winesap; 11, Rawles Genet; 12, Tewkesbury Blush.

C. Gillingham, for the amateur, would add, 13, Red Astrachan; 14, Summer Rose; 15, Edward's Early; 16, Summer Pearmain; 17, Porter; 18, Jersey Sweet; 19, Belmont; 20, Beck's Pleasant; 21, Paradise; 22, American Golden Russet; 23, York Imperial; 24, Roman Stem; 25, Adams White; 26, Prior's Red; 27, Shockley; 28, Nickajack; 29, Winter Cheese; 30, Abram; and for the commercial orchard, plant very largely of Nos. 9, 10, 11, 12, 23, 26, 30 (31) Albemarle Pippin, and (32) Limbertwig. Judge Gray specially commended 18 and Lady Apple. D. O. Munson would plant 1, 5, 9, 10, 11, 13, 18, 21, 22, 23, 31, 32. Fall Pippin, Gloucester White, Ben Davis, Bonum, Romanite, Wine Apple and Sweet Winter, and if he were to plant 1,000 trees, one-half would be No. 10 (Winesap.) G. F. X.

Washington, D. C.

Yellows in the Peach.

Our correspondent, "Eastern Shore," whose playful discussion, in the January number, of the *Aphis* and the *Peach Yellows* will be remembered, asked the *savans* some questions which he thought pertinent. Mr. Meehan, who was one of the authorities appealed to, thus takes up the subject:

A correspondent of the *American Farmer* says: "If the 'Yellows in the Peach,' is caused by a fungus on the root, why does not this disease show itself in Apricot and Plum trees, budded or grafted upon Peach roots?" It is easy to ask questions,—not so easy to answer. It takes time to find out things,—and chiefly because there are thousands who write and talk, to every one who patiently experiments and observes. It is quite likely there are very good reasons why a fungus on a peach root will not affect a plum or apricot grafted on that stock. There are many vital things quite as curious as this one, about which, at least so far as we know, we have all to profess ignorance. For instance, we say this pear or that pear will not do on this soil,—and yet these pears are all grafted on pear stocks—seedlings of all sorts and kinds. One would suppose it was the roots and not the kinds grafted on them that had the selection of food, yet we see in these instances that the roots are under the influence of the variety grafted on it. So great is this influence on the roots, that often the whole character of their growth is changed. If we take seedlings from a hundred different apples, in which the roots are all different, and on these graft 50 Maiden's Blush, and 50 Rhode Island Greenings, when the trees are dug up, a good nurseryman will pick out the fifty of each by their roots alone. It is easy to ask how is this? Again we graft a White Doyenne with cracked fruit, with a Bartlett, and the Bartlett does not crack,—yet the same elements nourish one as the other, so far as we know. Why? All we can say is that those who find the solution to these problems are welcome to the use of our pages.

A Proposed Pomological Association.

We notice in the *Charlottesville (Va.) Jeffersonian*, a well-conducted journal, which takes hold with spirit of all subjects intended for the benefit of the farming class, that a movement is on foot, headed by Mr. Fitz, and seconded by itself, to form at Charlottesville a horticultural and pomological society. This region, probably one of the finest fruit-producing portions of this country, contains many active fruit-growers, and such an organization would doubtless accomplish a good work in showing to the world their valuable productions, and the adaptability of Piedmont Virginia for growing every variety of fruit. We wish the undertaking all the success it deserves.

The Southern Apple and Peach Culturist.

Mr. Meehan, in the *Gardener's Monthly*, gives the following handsome notice of a work to which we have had frequent occasion to allude, the production of our esteemed correspondent, Mr. Fitz:

Though so long before the public, this work has but just made its appearance on our table,—but though late we welcome it, as we do everything calculated to improve the horticulture of the Southern States. Our country is so large that a work devoted to the wants of the whole is well nigh impossible,—and hence it is essential that we have good works devoted to special sectional needs. So far the South has produced few local works,—or if it has they have fallen out of our regular line of observation. This book contains over 300 pages, and is beautifully gotten up,—better indeed than some of our Northern horticultural works, where one would suppose from the greater prospect of good sales—horticulturists being more numerous—there would be more inducement for literary taste.

In regard to the matter of the book, it seems to us that any thing that any Southern man or woman desires to know about the apple or the peach, will be found within its pages. It embraces not only the classical history, but an account of the minutest details of culture. One of the peculiar and special features of the book is its lists of fruits adapted to the many localities that the work is intended to serve. We should expect to see the book in every Southern horticultural library, and it will be valuable as a reference in any Northern one.

The Vegetable Garden.

April.—Fickle month as she is, she brings work enough in this as in every other department of the farm. The pressure elsewhere ought not, however, to prevent the fullest justice being given here. Farmers too often neglect their gardens, or give them only such odd ends of time and care as may be spared at irregular intervals. It is doubtful whether any portion of the farm gives more profitable and more certain returns than a well-kept garden. How much it contributes to

comfort and healthfulness ought to be known to all.

For most of the vegetables usually grown a more convenient plan is to put them in a truck patch, where, in long rows, they may be cultivated with a horse, and thus save time and labor, while the work is as efficiently done as by hand.

Thus far, the season has been so backward, that it is probable spring will open suddenly when she begins to smile. Look, therefore, carefully after hot-beds, which may be ruined by an hour's want of care, or by leaving uncovered during a night's frost.

Fork up Asparagus beds, if not already done. Bush or Dwarf Beans may be planted; Beets, Carrots, Parsnips and Salsify sown; Cabbage set out; Celery sown in the richest and moistest spot in the garden; Horse-Radish sets should be planted in rows; Onions ought to go in at once, also Leeks. Set out Lettuce. Sow Parsley in foot drills. Peas for a succession ought to be planted; Potatoes ought to be in; Radishes sown every week. Rhubarb beds ought to have a good coating of manure. Tomatoes for main crop may be sown. Sow Turnips.

The more delicate varieties of seeds ought not to be sown until the weather is settled, else they are liable to chill and rot in the ground. Until the ground is warm enough to plant corn, better delay planting Lima Beans, Cucumbers, Melons, Okra, and setting out Egg Plants, Tomatoes and Peppers.

For some hints which may be useful, even in home gardens, refer to the paper on Trucking from our accomplished correspondent *Nansemond*, whose suggestions are practical and timely.

Floriculture, &c.—April, 1875.

By W. D. BRACKENRIDGE, Florist and Nurseryman, Govanstown, Baltimore county, Md.

Spring, the harbinger of the crocus, narcissus and modest snowdrop, has lingered long in opening upon us, and all nature seems to cry aloud to be relieved from its ice-bound shackles, while our surroundings impress us with a feeling that is more like the 1st of February of by-gone years, than that of April. This contracts the time, in which the preparation of the ground, seeding down, planting of trees and filling up of beds and borders with flowering plants for the summer, is to be done.

South of this, all of the above work ought to be performed without delay or before hot weather sets in. In Maryland we have usually found that it is soon enough to plant foliage and other bedding plants about the latter end of the month, or first week in May, but hardy annuals and herbaceous plants ought to be put out sooner. Fine bone dust, or well-decayed cow manure, is good to mix up with the earth while planting, and, if the weather is dry, a little water should be given to settle the earth about the roots, afterwards applying some kind of shade for a few days. A very general complaint is made that verbenas are degenerating by being attacked by a rust. We have only suffered from this malady when we planted two years in succession on the same ground. We find they love a change of locality and fresh earth to insure a clean, healthy growth

but the best way to have them clean is, to sow seeds of good kinds during the month of February; these, if well cared for, will begin to bloom in June. In the grouping of both foliage and flowering plants, much taste can be displayed in the blending of both leaves and flowers, and in no instance should several opposite colors be brought in close contact with each other; but rather a melting away from some high tint down to one more subdued. We like a clump of varied colored lantanas, bordered by a margin of heliotrope and verbenas. Masses of distinct kinds of cannas also look well, giving to a garden a tropical aspect; but, like dahlias, the effect is almost lost if scattered about as single specimens. As somewhat congener to the canna are various kinds of ornamental grasses, as *erianthus ravenna*, *Gynerium argenteum*, *Pihalaris*, *Arundinacea picta*, *Gymnothrix salcata*, to which may be added the beautiful *Eulalia japonica*; a group of one or all of these has a light, airy and neat appearance, while they require south of this, for protection, only a few oak leaves sprinkled among their own grass to save them. As a neat edging for flower beds, the *Gnaphalium tomentosum* can be used to advantage, if frequently pinched back when young, but the *Artemesia stellariana* and *argentea* answer the purpose equally well, and are more easily kept during the winter. Much has been said in Europe of the beauty of *Mesembryanthemum cordifolium variegatum* for edging, and as we have a good stock on hand, next summer will prove how it stands our hot weather.

For small flower-beds near buildings, we have seen and had very neat edging of various species of *sempervivum* and *echeverias*; these require little water and good drainage.

Plant out gladioli, tiger lily and tuberose roots; they all require a deep rich soil; a slight mulching of manure is of much service in case of long droughts. Dahlias, farther south than this, may now be planted out. In the Middle States it is better to defer this work to the end of May. So soon as mild weather sets in do not delay finishing the planting of ornamental trees and shrubs, as the longer this work is put off the less will be the likelihood of success, and by turning to our last month's remarks, see some useful hints touching the conditions which should, in some measure, regulate this kind of labor.

Greenhouse.

To put on paper, in detail, all that should be done in the greenhouse department the present month, would make a very nice little volume; therefore we shall only note, generally, a few of the most important things to be observed and properly attended to. *Camellias* should now, if necessary, be shifted into larger pots, and receive a good supply of water at the roots, when in a growing state, at which time a little extra heat and shade is good. All plants that have been wintered under the stage and in the cellar, should now be brought to the light, pruned into shape, and otherwise put into order to make their summer growth.

The genus *Achimenes* and its allies ought to have their roots overhauled, and a portion of them put out in pots or hanging baskets, for which latter purpose they are well adapted; a light, rich porous earth suits them best, but heat and moisture are also requisite to their well-be-

ing. Another set of tuberous-rooted plants will also want attention, viz: The *Gesneras*, *Gloxinias* and *Beslerias*, they like a similar treatment as the *Achimenes*, and are, withal, more desirable, being very showy.

We would advise shifting at this season, rather than in late summer, all hard-wooded New Holland and Cape of Good Hope plants; they will then make better wood and flower more profusely; and seedling plants of all such ought to be kept growing freely by frequent shiftings.

All soft-wooded plants, intended for bedding out, should be removed to cold frames, so as to harden them off; and seedlings for open air growth should be pricked out singly into boxes or shallow pans; for just as your plants are stocky and well grown, so will your success in proportion be after planting out.

Pelargoniums and *Geraniums* should be frequently turned round, so as to prevent them becoming one-sided. *Azaleas*, after they have gone out of bloom, will require a free exposure to the light, and a good supply of water while the young wood is forming, as short well-ripened growths produce the finest flowers. *Fuchsias* will demand a good deal of care at this season, that is, if plants with flowers from the rim of the pot upwards is desired; to effect this, frequent pinching back of irregular shoots when the plant is young is necessary, as well as attending to their being shifted into larger pots before the roots become matted.

Cinerarias will now require a goodly supply of light and water, and only seed of the finer varieties should be saved, and, to prevent impregnation by indifferent kinds, the latter so soon as they show bloom should be thrown out, and all spurious *Calceolarias* should be served in the same way, so that a good strain of kinds may be kept up.

All kinds of *abutilons* are desirable for both in and out-door culture, for if properly treated they will remain in bloom during the whole year; the one called *Boule de Nieve* is the best white; *Duc de Malakoff* has very large crimson-veined flowers, and *Thomsonii* has fine gold-mottled foliage, while there are several others that are very desirable, having veined and other yellow flowers.

W. D. B.

Roses,

Their Cultivation—Varieties, &c.

[Continuation of Mr. Pentland's Address, read before the Maryland Horticultural Society.]

I shall now endeavour to enumerate a few of the best roses as I have classified them, both of old and newer varieties, as they occur to me, and I shall not, as many do, enumerate those in particular that I may have a large quantity of for sale,—for I fear that, of very many of those that I shall mention, I could not offer a single plant, and shall only mention such as have some good quality to recommend them, either in color, size, form or good blooming qualities, or otherwise; and the first upon the list that I shall name is perhaps the largest flower of them all, of beautiful form and color, namely, *Anna de Diesbach*, a bright rose color. Then comes that fine noble old rose *Baronne Prevost*, brilliant rose; *Auguste Mie*, bright glossy pink;

Caroline de Sansal, flesh color, always beautiful; General Cavaignac, of beautiful form, rosy pink, blooms well; La France, bright pink, none better, and the nearest approach to a perpetual of any; Madame Domage, quite a gem; Comtesse de Chabrilant, I believe, is the finest formed flower of them all. These are all bright colored. Of the dark dazzling colored varieties, we have Triumphe de l'Exposition, always fine and good; Jules Margottin, hard to beat, and generally in the winning stand at exhibitions; General Jacquimenot, known to you all; Geant des Batailles, and General Washington—the two last named are among the best grown, as they are tolerably constant bloomers, particularly the last named one; Gloire de Santenay, fiery crimson, beautiful; Prince Camille de Rohan, blackish crimson, fine; Souvenir de Wm. Wood, dark purplish crimson, very effective; Xavier Olibo, velvety black, brilliant, grand. The four last named, in color, form and substance, are hard to beat. Then, of the lighter colored crimsons, we have Prince Leon, not quite so good a grower as the others, but superb; Prince Albert, old but never excelled as yet, in my judgment, as a first-class rose, and blooms constantly, which is a great recommendation. There is one other I will mention in this class, namely, Victor Verdier, deep rose, of exquisite form, very large, withal a good bloomer. In the Hybrid perpetual class there have been so many new ones added to the list every year, that it is difficult to keep pace with them, but in my humble judgment there is as a general thing only a difference in name. True, there are very many besides those mentioned that are really first-class, and worthy of a place in any collection, and very many equally as good as those mentioned. Of the white varieties of this class, there are not very many; the best that I know are Princess Clothilde, Baronne de Maynard, Madame Plantier, all pure white; Madame Vidot, flesh, nearly white, of exquisite shape and always good, and Madame Rivers, nearly white.

Of the *Bourbon* class, I consider the following named varieties among the very best, being both good growers and constant bloomers. I shall name them in the order of merit, and, at the very head of the list, I must place that grand old rose Souvenir de la Malmaison, clear flesh, and the largest flower,—this rose has not been excelled as yet; Hermosa, clear bright pink, of exquisite form, and always reliable, and has never been excelled; Madame Bosanquet, pale flesh, beautiful in bud and of good substance and very constant. I shall never forget the time when, thirty-two years ago, I potted about this time of the year the first plants of the three last named roses that were ever in the United States, together with about thirty or forty others, some of which have gone out of existence, and others again remain to this day, (among the best of them was that fine old rose, De la Reine;) nor how in the Summer of that year I used to watch for the first flowers that were to show us what they were, and when, with my employer, we watched daily for their expanding! And when they did expand, what a glorious sight met our eyes! How we feasted our eyes upon their virgin beauty! I felt like worshipping them, and thought that we had reached the very acme

of perfection in rose-growing, and so I think still with regard to them. Didn't we snub off their beautiful flowers quick and despoil them of every flowering bud that they had, and never let them display another flower that year, for fear others might see them! If you had seen how we treated them, you would have been very likely to have called us selfish brutes, we cut and mangled them so very fearfully, but at the same time you would have wondered how, otherwise we treated and guarded them so tenderly, and fed them with the very best food they liked; indeed had they eaten gold in quantity, I believe my employer would have fed them with it, knowing full well that they were going to return it tenfold, and so they did. But I digress, and to return, *Acidalia* is old but superb, and the whitest flower of this class; Queen of the Bourbons, fawn and rose, very beautiful; Madame Masset, nearly white, a beautiful imbricated flower, like a miniature camellia; Appoline, light pink, first-class bloomer; Imperatrice Eugenie, deep rose, large and beautiful; Souvenir de Leveson Gower, salmon rose, a peculiar color, belonging to itself alone; this rose is called by some the pink Souvenir; it is quite as large as that variety; it is very liable to get mildewed.

That very old rose Monthly Cabbage is one of the very sweetest and most beautiful roses of this class. I knew it thirty-five years ago, as the Gloire de France, which is its proper name; George Peabody, is one of the darkest roses of this class, and is also a great bloomer. I might mention many others, but I think we have in those quite a sufficiency for a distinct variety.

Of the *Bengal* or *Chinese* class, the best are Agrippina, dark brilliant crimson, of the best form and blooming quality; Archduke Charles, very changeable in color, sometimes one-half of the flower is white, the other crimson red; Louis Philippe, crimson, a good bloomer and grower; Eugene Beauharnais, amaranth, very beautiful; Lucullus, blackish crimson, small and beautiful; Reine de Lombardy, bright red, vigorous and always pretty. Rival de Pastum, yellowish white, and Indica Alba, pure white, are the only two light-colored roses in this class that I am acquainted with.

Of the *Noisettes*, the following are always good: Triumphe de la Duchesse, pale rose, and a strong grower; Lamarque, pure white, but rather tender,—does best further south; Jaune Desprez, fawn and pink, very sweet, but quite tender; Ophire, coppery mankeen, very pretty and constant; Woodland Margaret, pure white, and one of the most profuse-blooming roses grown; Beauty of Greenmount, carmine color, of beautiful form and fine blooming qualities; Amie Vibert, very pure white, and constantly in bloom, but too tender for this climate, when the thermometer gets down to near zero; Solfa-terre, sulphur yellow, a beautiful rose; Madame Deslongchamps, pale flesh, very large, flowering in clusters; Cloth of Gold, or Chromatella, is one of the most beautiful roses grown, but how seldom do you see a perfect flower of it! It is too tender to withstand our winters, but further south it is a most glorious sight to see a wall covered with a plant of this rose; to see the great golden globes depending from every branch, and its fragrance filling the air. Who would not

desire to possess a plant of it, in such a condition? I have my doubts of its being a true Noisette at all, but would class it among the Teas, as there is where I think it belongs.

And now I come to the last class that I shall mention at this time, and these are the *Teas*, and the one that I shall place at the head of the list is the Marshal Niel, the best yellow rose without doubt yet introduced, although I have heard of one that the French say will beat it. I cannot say, for I don't think any person has seen it as yet, and it will indeed be choice if it does surpass it; *Gloire de Dijon*, fawn, beautifully shaded with yellow, a free grower and bloomer; *Sombreuil*, white blush tinge, large and very fine; *Madame Damaizin*, buff, salmon tint, good; *Homere*, rosy pink, outer petals salmon, globular and very double, very choice and good; *La Sylphide*, incarnate blush, large and fine; *Duchesse de Brabant*, peachy pink, very fragrant, a great bloomer, forces well, a choice rose and hard to beat; *Madame Maurin*, cream and fawn, large, full and of beautiful form; *Adam*, salmon and fawn, large, sweet and fine, none better, quite distinct; *Safrano*, apricot yellow, beautiful in bud, and perhaps the most extensively grown rose in the whole list; *Isabella Sprunt*, pale yellow—is a sport of *Safrano*: the above are all tolerably hardy, and always give satisfaction, being strong growers; *Archduchess Therese Isabella*, is a creamy white, large and a most beautiful rose; *Caroline*, pale, rosy pink, or blush, a fine old rose; *Devoniensis*, creamy white, sometimes blush in centre, one of the oldest and most beautiful roses we have; *Eliza Sauvage*, clear white, large and very double, tender and beautiful; *Louise de Savoie*, pale yellow, large and full, fragrant and first-class; *Madame Bravy*, pure white, centre blush, beautiful form and a free bloomer; *Madame Charles*, a much-improved *Safrano* in color and form, but not so good a grower as that variety; *Triomphe de Luxembourg*, buff and salmon, a most beautiful old rose, and always a very great favorite; *Souvenir de David*, dark crimson, the darkest in this class.

Those last mentioned are mostly old varieties, and many of them are quite scarce, but they are hard to excel: they do not grow quite so strong as the former-mentioned kinds. I shall now enumerate a few of the newer varieties, together with some that are really choice, but old ones, and which are only fit to be grown in pots continuously, owing to their extreme tenderness, but which, for their great beauty, are always worthy of a place in the greenhouse or conservatory, at the head of which I shall place that fine old rose called *Yellow Tea*, which, for delicacy of color, delightful fragrance and beauty of bud, has scarcely a peer, and, in my judgment, has never been excelled; the *Vincentese de Cazes*, yellow with coppery tinge, double and beautiful also in bud; *Princess Marie*, buff, rosy blush shaded, large and full, most beautiful, this is a very old rose; *Lays* is a creamy white, beautiful in bud; *Madame Margottin*, yellow, rose centre, a very beautiful rose; *Madame Fustado* is one of the best of the newer roses, as is also *Madame Falcot*, nankeen yellow; *Reine de Portugal*, a double golden yellow; *Olymphe Fraciney*, white with creamy shade. I never could see any difference

between this and the much-lauded rose called *Bella*. In fact, there are so many of them that look so much like each other, that it takes a strong discerning power to see the difference in them. There is one other I must not forget to mention,—namely—the climbing *Devoniensis*, which is a most beautiful rose, and quite a strong grower; *Jean Pernet* is also a very pretty pale yellow rose; *Belle Lyonnais*, dark sulphur yellow, and one of the very best of the newer roses; *Souvenir d'un Amie*, bright rose, large and fine, and makes large buds, and is a strong grower; *Souvenir d'Elise*, a beautiful delicate blush, large, globular, and of exquisite fragrance, an old rose that I scarcely hear of any more. The rage for new names has driven many of the fine old sorts out of cultivation, and there are certainly not many of them that excel most of the older varieties. I had, at one time, seven hundred and fifty named varieties of roses growing in one house on my place, and in a situation where I had every opportunity to observe their characteristics, and I must confess that I could not select one hundred distinct varieties from the whole lot, and since that time there have been added to the list of names at least as many more, many of which I know to be most exquisitely beautiful, and many that will compare most favorably with those I have mentioned, but I will have to take another occasion to speak of them, when I hope to be able to show what advance has been made, as also to speak to you and tell you how to cultivate them in pots, in order to show to what a state of perfection they may be grown in that way as exhibition plants for horticultural displays, or for decoration of the greenhouse or conservatory, as also how new varieties are obtained, their general propagation, and other matters connected with roses. For to do so at this time would tax your patience, perhaps, beyond endurance, as I fear I have already exhausted the limits of good judgment and propriety in inflicting upon you the task of listening to the reading of these desultory remarks at this time. I will close this paper for the present by a quotation from Leigh Hunt:

"What's'er of beauty
Years and yet reposes,
Bush and bosom and sweet breath,
Took a shape in roses."

The Baltimore Flower Mission.

Although, as I look from my window this morning, the air is thick with snow flakes, and the ground covered to the depth of several inches, I remember the language of some unknown poet, who says truly,

"Under the Winter's snows
The invisible hearts of flowers
Lie, ripe for blossoming!"

So I take heart and my pen to plead for the Flower Mission. It is only one of those sweet missions of love which, inter ring with no other, occupying but little time and appealing to those only who have leisure and a love of the beautiful, opens nevertheless the way to graver and greater needs.

It has not been with us even a fashionable charity, nor yet a popular one; and to succeed, in this day and generation, most efforts for the good of our neighbor need to be one or both; but, humble as its origin and slow as

its progress, it grew and grew into a beauty and usefulness such as few of us dared hope for. That the Horticultural Society and our florists did not manifest greater interest often surprised us; because, to cultivate a love for flowers is to them both interest and aim, while the creation of a demand such as the Flower Missions of other cities make, is to render absolutely necessary the supply which only they or their patrons could furnish, and the facts concerning demand and supply remain the same forever, whether the article be radishes or roses. Looking at this in a strictly business-like view, we cannot but hope that the coming season will see some of our ardent wishes in this respect fulfilled. We cannot see why it would be inconsistent with the designs of the Horticultural Society to furnish the Flower Mission with a room instead of the inconvenient one which they occupied last year, nearer the larger thoroughfares of the city; although in some respects the position of last year—34 North Calvert St.—could not be surpassed: a position they owed entirely to the generous interest of the gentlemen directors of the "Boys' Home." However, I have wandered from my point somewhat.

In seeking your columns at this early season to call attention to the Flower Mission, it was to call the attention of your 'rural readers' and to beg them to drop a seed in season for the time that is to come in which we shall begin the beautiful work which so interested us from May to November of last year; when with an old crock or tin can full of ferns, or a wreath of Autumn leaves, we made our last visit to the humble homes of the invalids who had blessed us so often for a "wee bit of joy." Oh! I wish I could tell you of one tithe of the joy we saw come into pale, anxious and over-worked faces last Summer at sight of a bunch of violets or mignonette or roses. "Give me something which smells sweet," was the universal cry when we approached the bed-sides of the sick in the close wards of the hospitals, "something I can hold in my hand and smell!" Oh! how little you know, dear countrymen and women, with God's beautiful sunlight and fresh air so freely flooding your homes, of the horrors, the sickening fetid atmosphere of a city hospital! "Give me something that will grow and live and be bright," said the hard-featured men and women of prisons and factories, where from sun-up till sun-down, through all the sultry Summer, there was only silence, remorse and guilt on the one hand, and ceaseless toil and often inadequate return on the other.

"But your flowers only meet a sickly sentimentality," we have had said to us. "Why don't you take books and papers and food and clothing?"—"why don't you go and pray for these criminals, and labor for the salvation of their souls?" says another,—"what have men with the guilt of murder on their souls, and women with all the pollution known to the police courts, to do with flowers?" To each and all we can only reply, it has been put into our hearts to do just this thing, in the way best opened to us. We believe we are God's messengers and that He will see that not an effort of ours is in vain; because we go to these His suffering children with an evidence of joy in

the world and beauty and sun-shine, if they cannot see it, and we desire to give them our loving sympathy, and, if possible, lift their thoughts to higher places. That our efforts have been abundantly blessed we have no need to doubt, and that some of us would rather give up any pleasure in the year than abandon our share in the Flower Mission, is the very best proof we can offer of our own full conviction that it is the right place and right work for us, however others may feel. To those who may consider themselves or who are, more practical, we pause to say, wherever we found an opening for a "word fitly spoken," it was gladly given, and clothing, reading matter and food were in many cases freely supplied, though our ostensible work was that of the Flower Mission. Such gifts were as quietly and judiciously managed as became those working 'under the rose.' In conclusion, dear readers of the *American Farmer* everywhere, will you not put a few cuttings into your kitchen windows or hot-beds for us? Will you not sow your flower beds thick with mignonette, sweet-scented petunias, sweet allyssum, heartsease and salvias? and when they bloom will you not send us all you can spare? Do not be afraid to cut; like all good Christians they will return good for apparent evil, and for every good clipping will double in bloom; because, to follow the analogy, you keep them from dying of inaction, or in other words going to seed before the time of flowering is past. "How can we transport them?" you ask. In any old or new tin box. I have known violets fresh and dewy as when they started, sent by mail, from Baltimore to Omaha! The express companies and railroads have always transported for us free—only give us your cordial good will and the way will surely open, and you will find in this new pursuit a joy of which you little dream.

E. T. G.

Baltimore, March 5th, 1875.

[We agree with our fair correspondent that the Horticultural Society should give this very deserving work some encouragement, and, if within its power, even some substantial aid, but having itself no local habitation, it can hardly offer quarters to the Mission. To bring the subject properly before the Society, one of the editors of the *Farmer*, at the last meeting of the Society, as will be seen in the report of its proceedings, offered a resolution, which was adopted, asking the Executive Committee to consider whether something cannot be done in the direction indicated.—Eds. A. F.]

FROM THE CORRESPONDING SECRETARY, Mr. E. W. Buswell, we have Part II of the Transactions of the Mass. Horticultural Society for 1874, with reports of Meetings, Monthly and Annual Exhibitions, Discussions, &c.

FROM LONG BROS., Buffalo, N. York, we have a copy of their "Home Florist," a little volume which treats in a plain way of just the subjects that every amateur wants to know about in floriculture.

Maryland's Fisheries.

Messrs. Editors of the American Farmer :

In presenting the following statement to the public, we are aware that we lay ourselves open to criticism, but as the people ought to have something tangible whereby to judge this interest, that consideration shall cause no drawback upon the honest effort to put upon record the worth and value of this immense interest.

It has been clearly proven that there is in the State, fished and unfished, one hundred and fifty fisheries; in fact, under an improved condition of things, that number might be carried up to two hundred, but the former numbers will answer, and be sufficient data to go upon for the purpose for which it is intended.

150 shores, at \$10,000.....	\$1,500,000, stock capital	
" " value for rent, at \$300.....		\$150,000
Stock in nets, ropes, &c., at \$3,000.....	\$450,000	
Selne boats and oars, &c., at \$500.....	75,000	
3 lookout boats to each shore, at \$30.....	13,500	
Capstans, &c., &c.....	10,000	

Stock.....	\$548,500	
Wear and tear of stock, at 25 ¢ cent. 7 annuum, \$139.80		
2 hands to each shore, at \$1 per day for 45 days, 225,000		
Feed for hands.....	50,000	
Four horses to each shore, at \$25 per season.....	15,000	
Feed for same.....	10,000	
Two managers to each shore, at \$150 each.....	45,000	
Two clerks, at \$50 each.....	15,000	
Two selne menders, at \$50 each.....	15,000	
Two cooks, at \$25 each.....	7,500	
Feed for masters, managers, clerks, cooks, &c.....	6,000	
Three pungies to each shore, at \$300.....	90,000	

Annual expenses to the renters.....\$49,500

Then comes salt and barrels and many other things too tedious to mention. Then comes the gilling interest, not yet mentioned, which, from data given by Capt. Hunter Davidson for the Potomac, we judge that there must be at least 1,000 such nets used in the State; and, as we have more than doubled the riparian fishermen's interest, it is but just that this industry should be supposed to increase in the same ratio.

2,000 gill nets, at \$150.....	\$300,000	
" boats, oars, sails, anchors, &c., at \$150.....	300,000	
Two men to each boat, at \$1 per day for 70 days, 280,000		
Feed, lanterns, oil, &c.....	10,000	

\$890,000

It is difficult to tell what the annual expense of this industry is, but it is safe to say that few gill nets last more than two years; wear of boats, in accord with circumstances; so that one-fourth of these two items might be charged to wear and tear as annual expenses, which give \$400,000. This amount, added to the annual expenses of the riparian fishermen, gives a grand total of \$1,149,500.

"Well, really," says the fancy-fish man, "we had no idea of this." No, gentlemen, you had not, and will never "have adequate ideas" of the extent and value of the State's interest in the Chesapeake bay and its thirteen tributaries and their creeks, coves, &c., until you look upon them with other eyes than you now do. Here we can raise our *pets* and send them down the rivers to the Atlantic ocean, there to feed upon its rich meadows *ad libitum*, thence return and bring with them the riches of the sea, as food for man and something to spare for manurial purposes. We really think that there has enough been said upon this side of the question to convince the most skeptical on which side to throw their influence.

We append the following, as a matter of interest, published in the Baltimore *Weekly Sun* by the Board of Health of Washington, D. C.: Amount of fish caught upon the Potomac, spring of 1874—"Grand total, 15,000,000 herrings, 1,000,000 shad, 145,346 taylors, 620 sturgeon, 4,950 bunch-fish." And, also, the gross amount of sales of a certain shore upon the Potomac, from Capt. H. Davidson's Report: 1867, \$9,931; 1868, \$10,290; 1869, \$9,997; 1870, \$10,467; 1871, \$7,260.—"Verbum sat."

It is amusing to see how circumstances bring out the characters of men. No sooner had we begun to put the fishing industry of the State upon record, than out ran your friend Mr. Kent with his fish-pond in his arms, and threw it down before us; we stepped across it, it is true, without noticing it, but, hearing a voice behind, calling out "800 pounds of trout at one dollar per pound," we looked back, but still kept on, for we knew that we could not afford to eat fish at that price; we knew, too, that within thirty days we would be able to buy shad at 3 cents per pound. At the same time we heard a voice ahead of us, which we mistook for the echo of the one in the rear, but, on coming up to it, found it the voice of our old familiar friend, Dr. Pearson Chapman, Jr.; our courage fell for a moment, and we involuntarily exclaimed, "*et tu Brute*." Drawing nearer, "*say I*," Dr. Chapman, when a man speaks, he should tell everything. What you said is true, but not all that might be told. Mr. Green wrote us that we could have his pill boxes for "\$2,000 for three years"—this puts a very different face upon your "\$2,000 which is for his boxes." Moreover, Dr., we have Green's letter, saying that he offered his boxes to our commissioners for the very same, and all this "*say I*," puts a very different construction upon the popular rumor that went the rounds in the beginning, that Green had asked more money for his boxes than the State had appropriated for fish; and it rectifies the assertion made in the columns of the *Farmer*, that Mr. Green had asked more royalty for his boxes than the State had appropriated "*for one year*." Now we get about at the truth, \$2,000 for three years, and I appeal to you, as a judicious man, if it would not have been better to have given that sum, and thereby have secured the patent for three years, than to have frittered the State's money away in trash; by so doing, the right to the patent would have been secured to the State one year in advance of the present appropriation, which would have been an additional inducement for the State to make another appropriation in a work so unhappily begun. Moreover, Dr., you are the last man in the world to complain of extortion, for you yourself, often enough, make ten thousand per cent. upon a pill. As the case now stands, the fear is, that the sick patient, having been doctored by your nostrums, may sink so low as not to be able to recover; and, in truth, we care not especially for what you have said, because we have of late had to carry heavier burdens than that which you attempt to lay upon us, because we felt it to be our duty to champion this interest. Why, sir, "*say I*," we have had to carry the weight of distinguished professors upon our shoulders, and some not distinguished. Paper pellets have flew fast and thick around us.

Why, sir, "*say I*," the church has been made to bray, because we dared claim the right of a freeman in this matter; and that is not all, we have had to stand *sarcastic kicks* upon holy ground; nor is that all, the governor of this State threw his influence against us; and, again, the honorable the Secretary of the Treasury, a native of Charles Co., "a gentleman whom we all delight to honor," plead in favor of *fancy fish*. Is it a wonder, then, "*say I*," that in the face of all this influence and talent, we should have had the temerity to attempt to champion this interest? Yes, it is a wonder, and we rather surprise ourselves. But don't get uneasy, Dr.; we can show you a letter from a distinguished gentleman from Baltimore, who was in "*the ring*," in getting up this commission. The Doctor takes the letter and reads: "*If you think that this law was gotten up for the benefit of you fishing property-holders, you are mistaken*," but, Dr., we made no such mistake; we knew, in the beginning the purpose for which the law was intended. Read on, sir: "*we intend to fill all our streams with fish, beginning at the head waters of the streams, &c.*" "*Beginning at the head waters*;" then, of course the main interest must come last. We make no comments, Dr., but we ask you to put that and that together and give us your opinion by the next mail. But, Dr., "*say I*," we are very glad to have your company anyhow, because you are a necessity to both sides; some of us will get sick upon this journey, and shall need your skill to set us upon our feet again; but, for the present, we would rather that you would go back to Mr. Kent and his construction of fish-ponds. Tell him we are passed that place, and that "*he is beaten*," now don't go about pointing," and that we shall return home down the bay. So

"I took the way that pleased myself,
And so did Death."

OLIVER N. BRYAN,
alias Potomac.

Accokeek P. O., Prince George's Co., Md., Feb., '75.
(To be continued in the September No. of the Farmer.)

P. S.—If any of the readers of the *Farmer* have a small pamphlet written and published about the year 1855, by the late Col. John A. Washington, of Mt. Vernon, upon the value of the Potomac fisheries, we shall be obliged for the loan of it.

If the papers in the State, or out of it, should take up this fishing question *pro*, or *con*, we shall be under many obligations to be favored with a copy. Direct as above. O. N. B.

A Voice from the Eastern Shore.

To the Editors *American Farmer*:

Your correspondent "*Potomac*," after giving his estimate of the value of the herring and shad fisheries, says: "All of which it is proposed to swap off for a few fancy fish, *that the anglers of the State may disport themselves at their leisure*." It should not be forgotten that if the appropriations are expended entirely for shad and herring, that it will be entirely for the *pecuniary* benefit of those few individuals who own fishing shores, and that the tax is borne by *all* parts of the State, the most populous and richest portions of which (who pay the greatest part of the tax) cannot participate in the benefits of the shad and herring fishing, but have to pay a large price for

these fish; whereas if *their* rivers and streams are stocked with bass, salmon, trout, &c., they can be had without expense to all, affording both recreation and food *without cost* to the thousands of factory operatives and other laboring classes living upon, or within reach of, the rivers and streams above tide-water,—the very people who most need cheap food, and who cannot afford to buy the expensive shad and herring. I live immediately upon tide-water, but think that all sections of the State ought to have their proper share of the appropriations.

"Potomac" is mistaken when he asserts "that salmon will not give any return for ten years." The second autumn they vary in weight from two to eight pounds; the third autumn, from sixteen to twenty-five pounds. BRAEMAR.

Worcester Co., Md.

The Agricultural College.

Letter from President Davis.

William B. Sands, Esq.,

Junior Editor American Farmer:

DEAR SIR—Having had an opportunity on the 10th instant to correct the journal of the proceedings of the Board of Trustees of the Maryland Agricultural College, I now feel at liberty to answer your letter of the 22d February.

As a stockholder and graduate of the College, apart from your position as editor of an agricultural journal, your solicitude upon the subject is quite natural, and you are entitled to all the information you desire. You write me that you have been informed, "that I, as President of the Board, declined to notify the professors who were in effect removed by the resolution adopted on the 22d January, because of the exclusion of the State Board of Education from the proceedings of the meeting." Much as I regretted and dissented, as a matter of policy as well as of right, (the College depending upon the breath of the State for its very existence) to the objection raised to the participation of the State Board of Education in the proceedings of the Board of Trustees—as had been the case without question or objection ever since my connection with the Board for the last seven years, and, I believe, before—yet this was not the ground upon which I declined to notify the professors, as you justly say, who "were in effect removed," or sought to be removed, by the resolution then adopted, or thought to have been adopted. My reason was because the resolution, though passed by a large majority of the Board, five to two (Mr. McHenry and myself in the minority) was not passed in conformity with the terms of a by-law of the College, which says that six votes shall be necessary to elect or remove an officer of the College.

The resolution, it is true, does not use the word "remove"—it was doubtless intended by those who voted for it to mitigate the sting of removal by substituting therefor a request to resign: the intent and effect, however, is the same. Stripped of the high-sounding words about "the determination of the Board to make the Agricultural College a school of high scientific instruction," &c., &c., it reads, "that with a view of bringing the expenses of the College within its means, * * * the Board requests the resignation, at the expira-

tion of sixty days from date, of the professors of languages, chemistry and agriculture," naming each of the gentlemen to whom the resolution was intended to apply. When called upon subsequently to the adjournment officially to communicate the resolution to the professors to whom it was to apply, (the Board having adjourned without giving direction as to the manner of its communication) I felt it my duty critically to examine the terms of the resolution and compare it with the by-laws on the subject. In addition to the by law already referred to, there is another requiring *sixty days* notice for the removal of a professor or officer of the College. Comparing the language of the resolution with this sixty days notice—required by the by-law—and remembering that it proceeded from the superior to the inferior, from the power of appointment and removal, to the appointee, I could but come to the conclusion that the latter was entitled to the full protection of the by-laws, one of which, as already quoted, emphatically declared that *six* votes were necessary to remove a professor from office. To have given a different interpretation to the resolution would have been to place my honorable colleagues in the Board, with whom I had the misfortune to differ, in the position of having sought to accomplish by indirection a purpose which they had not the power to do by direct action,—a position as unjust to them, as it would have been impossible for me to place them in.

This answer I hope will be sufficiently full and satisfactory to you upon the points of your inquiry. But as you state in the last number of the *Farmer* that the matter has produced considerable excitement and comment, both with the public and stockholders of the College, I avail myself of this opportunity to add a few remarks upon the present condition and probable future management of the College. I do this, as it is probably the last time I shall ever write or speak upon the affairs of the College,—advancing years and failing health admonishing me that it is time for me to give way to you and such as yourself, who I hope will now come to the front, and manage the College more effectively for the great agricultural and industrial interests of the State for which it was founded and chartered and endowed by the Legislature. I feel reluctantly bound to say to you that these interests and the question of industrial and agricultural education, at least so far as our State is concerned, are in great peril. The new programme subordinates these interests to the naval and military organizations of the United States—in my judgment—in derogation of the rights of the stockholders, and of the State of Maryland, as a joint and equal owner of the property of the College. In proof of this, I need only cite you, (1) the effort made, without fault or charge—or indicating a successor or substitute, other than from the military, to remove the three professors—of which I have spoken in the first part of this letter; (2) the issuing of a circular announcing the establishment of a NAUTICAL SCHOOL AT THE MARYLAND AGRICULTURAL COLLEGE; and (3) the inauguration of two classes of students, one for the agricultural and industrial department at twenty dollars per month—without an agricultural or industrial

teacher or professor when the present incumbents shall be removed,—the other for the naval and military department at forty dollars per month. I ask you, in the nature of things, is likely to receive the most benefit and attention under this arrangement—the student who pays but twenty dollars per month or the student who pays forty dollars per month? Does not common sense and all experience answer the question against the student who pays the lowest sum? If this be so, then we have the anomaly in Maryland of a school founded especially for the sons of the farmers and mechanics of the State, and endowed by it, converted into a preparatory school for West Point (which is already overrun with students and applicants, and for the reduction of which a motion is now pending in the Senate,) and the Naval Academy at Annapolis. In proof of this, look at the circular which I send you. You, I am sure, will smile at the idea of the ice-pond, which you helped to build, and which is scarcely large enough to turn an Indian's dug-out in, being converted into a bay in which to teach "*navigation and marine enginery, and all matters pertaining to the proper construction, equipment and sailing of vessels,*"—(there being no other sheet of water at the college.)

The thing, to a common mind, unfamiliar with such subjects, appears to be supremely ridiculous. Again, "*special attention,*" according to the circular, "*is to be given to preparing candidates for admission to the U. S. Military and Naval Academies,—the President of the College being a graduate of West Point, and Captain Parker of the Naval Academy.*" I must do these gentlemen the justice to say that they are men of learning and of culture, and, doubtless, well qualified for the branch of instruction they propose to inaugurate. The long list of eminent military and naval gentlemen, as well as the present and late Governor of the State,—to whom they refer—give assurance of this. But the question arises, is this for what the Maryland Agricultural College was founded and endowed? Both the charter, and the law of Congress granting the proceeds of the sale of land scrip, donated to agricultural colleges *for the benefit of the industrial class*, negatives the idea.

The "*special attention*" which these gentlemen propose to give these subjects, fully sustains the view I have already taken of the prejudicial effect the two classes of students and different rates of tuition must have on the industrial branch of the college. It is, I believe, an accepted rule in law, that a local special act takes precedence of a general law,—so all general subjects are made to give way when the *special* comes in conflict.

It may be said that agricultural instruction is a failure. I answer that with the want of faith,—which the proceedings to which I have referred give evidence,—can there be any wonder that there should be a failure? With as little faith nautical instruction will fail, and so will preparation for the military school at West Point.

Much more might be added upon the subject, but I fear my letter is already too long, and I conclude by subscribing myself very truly,

Your obedient servant, A. B. DAVIS.

370 Madison Ave., Baltimore, March 13, 1875.

Mr. McHenry's Views.

To the Editors of the American Farmer:

GENTLEMEN.—In view of the approaching annual meeting of the stockholders in the Maryland Agricultural College, which meeting will take place on the 14th of April, I approve of the suggestion made in an editorial in the March number of your paper, that the stockholders should take a special interest in the election of the future board of trustees, and, if possible, attend the meeting in person. It cannot be gainsaid that the college is not now in a prosperous condition. For the causes that have led to that condition, I have no one to criticize more than myself; for I have been a member of the board of trustees for several years, and the meetings of that board have been, until quite recently, harmonious, and its acts have usually received the decided if not the unanimous sanction of its members. I must acknowledge, however, that I have never, during that period, considered that the college taught practical agriculture in the sense and to the extent contemplated by its founders, and called for by its charter. There now exists a difference of opinion among the present board of trustees as to the future management of the college. The board is, or is intended to be (for there has been inconsistency in recent legislation, in consequence of which it has puzzled, I say it with due respect, the highest law officer of the State himself, to designate the individuals on whom devolves the responsibility of representing the State in this board,) composed of eleven trustees, of whom seven are elected by the stockholders, and four represent the interest of the State. Of the views of the trustees representing the State, it is not important to say anything in this connection. Amongst the trustees representing the stockholders in the existing board, some advocate the retention in the management and instruction of the institution of gentlemen of high attainments, with a view to obtain for the college a reputation as a school of science and the extension of the scope of the duties of the professors so as to include the preparation of students for the military and naval schools of the United States; others advocate a radical re-organization of the government and system of the college at the close of the session now in progress, and the establishment of a working school of agriculture combined with a school for instruction in the necessary branches of elementary education, leaving for the future the introduction of studies of a higher order when a satisfactory foundation shall be laid. It is even a subject for consideration whether it would not be well to transfer the entire interest of the stockholders to the State, on condition that the latter should undertake the management of the institution for the benefit of the agricultural class, or, if the State should decline to assume such responsibility, to request the appointment of trustees clothed with authority to sell the property and divide the proceeds according to the respective interests of the owners.

I have been disposed to look upon the last referred to course—namely, an assignment to the State of the interests of the stockholders—as the best one to be adopted at this time; but finding that many persons who take a deep interest in

the subject of agricultural education are anxious that another effort should be made to carry out the purpose of the original subscribers to the college, I make common cause with them. The opinion prevails, that the money which the State gives for educational purposes she appropriates in altogether undue proportion to the support of instruction in higher studies and accomplishments, to the neglect of practical teaching in those pursuits and trades by which the great body of the people must make a living, and that the benefit to her as a community would be incalculably greater, in a moral as well as in a pecuniary point of view, were she to recognize that the public schools as now established provide ample means for obtaining intellectual education, and direct the efforts of the agricultural school to the training of children in the practical knowledge of agriculture and of arts and sciences intimately connected with it.

It is stated by good authority, that, as a general rule, the students now at the Agricultural College admit that it is not their intention to become farmers, and that they do not desire to obtain a specially agricultural education; but whilst the State supports wholly or in part many other academies and schools in which a general education may be obtained at a moderate rate, she endows this only one for the purpose of teaching agriculture. Let, then, that purpose be carried out. If parents who can afford to pay two hundred dollars a year do not desire to fit their sons to become practical farmers, they have other schools and colleges open to them; but let the cost of board and training in this institution be placed within reach of those who are prepared to adopt agriculture as the pursuit of their lives, to the extent, if it be necessary, of admitting without charge as many as can be supported by the State appropriation. I trust that a sense of the importance of the questions to be decided by the votes of the stockholders at the next meeting will secure a full attendance of those so interested.

J. HOWARD MCHENRY.

Baltimore, March, 1875.

Trucking—No. 3.**Potatoes—The Cabbage Crop, &c.**

Messrs. Editors American Farmer:

Your February No. contained my last article, on the Irish potato, and as many of us are now—March 17th—through planting, (having been delayed full two weeks by the inclement rainy weather, following a cold snap,) I may state that the data given as to guano used, seed, etc., have been fully verified. The barrels of cut seed ran from 1,700 yards, the smallest number, to 2,346 yards, the largest; hence 10 lbs. guano to one hundred yards, required more than a bag for some of the barrels. In the same cellar we found culling potatoes with sprouts a foot long, and near them a bushel or more of fair-sized tubers of the *second crop*, dug in September, that were not sprouted as much as the Northern seed. Mr. John Wagner, residing near Hodges' Ferry, Norfolk county, to whom the writer recently paid a *visit*, and who is one of our most energetic and successful truckers, had just finished planting 22 barrels of the Early Ver-

mont, seed of his own growing, kept in hills through the Winter. He received a small quantity of the seed the past Spring which yielded him 3 barrels in June; these were carefully planted, composting guano with his manure, in lieu of placing it on the compost as in Spring planting, and the sets were planted rather deep, *under* and not on the compost as is the truckers' custom for the early crop. The product was fifty barrels; the half barrel presented to me are larger, run more even and smooth than the barrel of Northern grown Early Vermont sent me by my commission merchant of Norfolk, for which he paid \$8.00. Mr. W. has tried an experiment the present season on rather a large scale in cutting his seed. The crown, or congeries of small eyes, he has first sliced off entire, and then cut the sets to two eyes, using mostly large pieces; having an abundance of seed of his own growing, he has culled very closely. In Emerson's Encyclopedia your readers will find this recommended for the main (I suppose late) crops. Thus: "Middling-sized whole potatoes are the best, from which all but two eyes are removed, and especially the crown, which is a congeries of small eyes always present, *first removed*; for from these proceed an equal number of little spindled stalks, which are comparatively *worthless* and injure the main crop."

Now, reader, comes the point; if they are worthless to the main crop, the writer cannot see why they should be otherwise to the early crop in *product*. He continues—"For the early crop almost the very contrary to the above is the most advantageous to practice. The set should have the *crown eye*, which is one growing in the centre of the congeries of small ones above mentioned, *preserved*." Mr. J. Knight, of England, is then quoted as authority on this point, and also recommends whole tubers for the early crop. The fact that the crown eye, first starts into life is no evidence of its being the most productive, and my experience with the plants in examining progress of development of the tubers is, that where the crown eye with its numerous spindling stalks around it, shows in the row, is not the *hill where I expect to find earliest and largest potatoes*. As these crown eyes will be planted in separate rows by the gentlemen to whom I have referred, and myself, *next Summer* you may have the result.

Spring has been backward with us and the truckers are somewhat behind hand. The early and late peas are doing well, the hot-beds have been cleared of the cabbage, plants transferred to the open fields, and the cold frames filled with tomato plants from the seedling hot-beds; those who grow sweet potatoes in lieu of tomatoes, have added some fine stable-manure to the beds from which cabbage are removed, and are just at the time I write bedding their slips under sash. Manure drilling for snap beans and cucumbers is now going on,—17th March,—and the same uniform plan for nearly all their crops is adopted: Harrow well the Fall and Winter-plowed land, lay off single furrows in rows mostly 4 feet distant, and, when ready to drill the manure, run the same plow in an opposite direction.

The friend visited had set nearly sixty thousand cabbages, the major part of the crop

Large York, with Winnigstadt and Ox-heart to follow in shipping. As he proposes to grow corn after cabbage, the plants are in rows on the South side of the ridge, 4 feet distant, and about 22 inches apart in the row; a rude estimate of the plants per acre is about 4,500. The product runs from 150 to 200 barrels per acre, 31 to 35 cabbage-heads per barrel, which sell from \$2.00 to \$2.50 in the New York market. The culture of cabbage is so well known that your correspondent need not occupy the reader's time with any observations on the subject; but this I may say from my own garden experience, that to obtain *good heads early in the Summer*, the young plants must be frequently worked, kept clean, and the writer has found in the garden, one and sometimes two dressings of guano and plaster, equal parts, and common salt, about $\frac{1}{2}$, around the plants just before working, push them forward rapidly. Lay them by clean, and earth up well; covering the stalk up to the lower leaves appears to assist them in forming hard heads. The larger we can get the plants before laying by to form their heads, it very naturally follows the finer the cabbage and the more profit, since a less number fills the barrel. There is perhaps no truck crop which responds so readily to high culture, as regards feeding it with manure and working it well, as the cabbage, and in a series of years none more uniformly profitable. It is easily gathered, packed and shipped in flour barrels with cloth covers, and bears transportation well under circumstances where early peas and even Irish potatoes would be spoiled. Any farmer who can grow Irish potatoes for the Northern markets with profit, can grow cabbage, because unlike the small truck crops of peas, beans and berries, the labor of getting into shape for market does not require so many pairs of hands to make headway in clearing the ground. In our section a fair crop of corn, (planted between the cabbage 10 to 15 days before the crop is cut,) can be grown on the same land. The refuse of the cabbage crop is enjoyed by the cows and pigs, and whatever may be said of the large amount of water in the green crop as compared with the elements which go to nourish the body, chemists tell us that dried cabbage contains as much or more nitrogen than beefsteak or muscle.

Cabbage leaves and salt are used by some of our people as a cure for the salivation which follows after horses eat the second crop of clover.

Although the writer did not make special inquiry, he has heard no complaint among the truckers, of the cabbage worm or any other insect on their early crops. All of us more or less suffer in our gardens from insects or worms, at root or on the heads of cabbage. For the cut worm, the writer has found salt brine from the fish barrel, diluted and sprinkled from the rose of a watering pot on the plants, and daily before breakfast hunting them up at the root, to be the best remedies. Plaster, salt and guano, sprinkled on the heads in August, are effectual in destroying the progeny of white butter fly as causing plant growth in early Spring. For the club root, my experience has been similar to that of the noted Jersey gardener, P. Henderson. Bone-dust, or heavy dressings of lime, bone-dust

and ashes in boxes or barrels, on which the washerwomen have emptied their tubs for some weeks, and the maids have occasionally emptied the chamber lye, has been used in drills with composts in lieu of any guano for the late crops of cabbage, except the applications to destroy insects as before stated.

The most formidable insect enemy we have to the late cabbage crop, is known among us as the "Terrapin bug" from its resemblance, with rounded oval dorsum or back, to the mill-pond terrapin. Another common name is the devil bug, (in appearance very much like the lady bug, but a little larger,) from its resistance, I presume, to all ordinary applications for its destruction and its fire-like destruction of the full-grown cabbage. Have tried carbolic soap solution, snuff, stale urine, salt and guano and sundry other insect-destroying applications on this bug without any desired results. While it prefers the cabbage, have found it preying on turnip tops adjoining the cabbage, where many of them gather on the foliage of either crop. The plants soon present the appearance of being scorched by fire, leaves turn black or shrink up, in fact they suck the fluids of the plant and appear to poison it as they go. A friend tells me that he had some success with a strong solution of Zell's super-phosphate of lime, and also used it as a powder. The surest remedy with me has been to watch for their advent, generally in July and August, and every morning *hand-pick and destroy* all that could be found, thus preventing their breeding. A few years since they attacked the remains of an early crop which had had all the best heads removed and were left undisturbed. Visiting the patch every few days, I was astonished at the rapidity of their propagation and increase, as well as their destructive effects on the few cabbage left. There were millions of all sizes and ages on the small plot, not more than one-fourth of an acre. The bugs, stalks and refuse went to the pig pen and the land was planted in turnips about first of August.

In our climate while every one succeeds well or ill according to the care exercised in growing the early crop, the majority fail in an *average of seasons with the late crop*; either failure in getting a supply of plants or the drouth coming in August, no suitable seasons are found for setting plants.

The difficulty, I think, may be overcome; at least for some years I have succeeded by this plan. Sow the seed in rather moist stiff soil about the middle of May; usually I select ground near the nursery by the side of young trees; look sharply after insects on the young plants; plaster as soon as they come up; sometimes use ashes and soot; often let them get a little weedy and tough, and don't want them to grow too fast; use soil without manure, but keep down grass along the outside of the drills. Always use *land manured in early Spring* for the crop, and generally plant a few bushels Irish potatoes in Spring on soil intended for the turnip crop and late cabbage for family use in Winter. The plants are always ready for setting when the potatoes are harvested, and, rain or no rain, the ground is *freshly prepared* by throwing into broad flat beds and the plants puddled in muck

and cow manure set well down and *firmed*; if weather is dry set late in the evening.

Exchange, Va., March 17th, 1875. NANSEMOND.

The Colorado Potato Bug.

We announced in our last, that in the present number we would give an article on this voracious insect, showing the latest improvements in the modes of its destruction. The crowded condition of our pages forbids our doing this, in detail, as we expected.

At the West, where they have longest contended against this pest, and most carefully studied the problem of its destruction, the almost entire reliance is still upon *Paris Green*. This is applied either mixed with plaster or flour in the proportion of one part of the pure green to forty or fifty of the plaster, and dusting it over the vines by means of a tin box with a perforated top, and with a long handle attached, so that the application may be made without danger of inhaling the dust. Another plan is to mix the *Paris Green* with water, and apply with a watering can, or similar vessel. The powder is not soluble and the mixture has to be kept agitated. This, probably, a more convenient and safe plan to apply the poison.

An effective implement or apparatus to apply the powder or watery mixture, is much needed. From our correspondent, Mr. John I. Carter's report, they seem to be found in the machine of Prof. Peck, to which he alludes, and which he says performs its work very perfectly, as well as economically.

The "Canned Corn" Suits.

It is generally known that the canning of green corn last summer was very much interfered with by suits and injunctions by the owners of Winslow's patent process. Several of these suits brought against dealers in Chicago were defended by Messrs. L. McMurray & Co., of this city, a very extensive packing house, so far as their Mountain Sugar Corn was concerned. The suit having recently come to trial, the Judge of the U. S. Circuit Court at Chicago dissolved the injunctions in all cases so far as the McMurray & Co.'s corn is affected.

The Patrons of Husbandry in Virginia.

A committee of the State grange having reported that it was "of doubtful expediency to establish any regular or recognized organ," and the executive committee having indefinitely postponed any action upon the subject, Col. Frank G. Ruffin, who, as we noticed, took the editorship of the *Southern Planter* in the interest of the granges, has withdrawn from that position.

As a result of this decision on the part of the order, a new weekly paper has been commenced in Richmond, *The Virginia Patron*, "devoted to the interests of the order." The first issue shows talent and good judgment. The publisher is J. W. Lewellen, and the subscription is \$2 a year.

CROWDED OUT.—Among other articles received too late for this No., is one from our correspondent "Nansemond," on pears,—approving, in the main, of Capt. Snow's list for Tidewater Virginia, with comments on other varieties.

The American Farmer.

PUBLISHED ON THE FIRST OF EVERY MONTH

By SAML. SANDS & SON,

9 North street, near Baltimore street, Baltimore, Md.
(sign of the Golden Plow.)

SAML. SANDS, } Editors and Proprietors.
WM. B. SANDS, }

SUBSCRIPTION, \$1.50 a year, in advance. To Clubs of five or more, \$1.00 each. For \$10, eleven copies will be sent.

For postage, 10 cents must accompany each name sent, whether singly or in clubs.

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One Square, 10 lines.....	\$ 1.50	\$ 4.00	\$ 7.00	\$ 12.00
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Cover Pages subject to special contract.

Transient Advertisements payable in advance—all others quarterly.

Advertisements should reach us by the 20th of the month, to secure insertion in the succeeding issue.

APRIL 1, 1875.

Additions to Clubs.

These can always be made at the original club rates. We hope as the Spring advances and moderate weather allows of more intercourse among country people, that, as opportunity offers, the friends and readers of the *American Farmer* will not neglect to give, as far as they can, a word of commendation to it. This is always in season, and scarce one of our readers but could add occasionally a name to our list, if he would remember to mention the subject to his friends and neighbors.

We are again obliged to enlarge our space, and yet, with the press of advertisements the season brings, we are compelled to omit a quantity of original and selected matter prepared for this number. Among these is an abstract of a pamphlet by Mr. John Ott, Secretary of the Southern Fertilizing Company, of Richmond, entitled, "Tobacco: the Outlook for 1875." It contains a great deal of valuable information, and numerous statistical tables of great interest to tobacco planters. Its main object, however, is to give emphasis to the fact that, as the competition of inferior qualities will hereafter be very great, the true policy of growers in Virginia and North Carolina is to use such care as will produce the finest possible qualities of the weed in which they can readily excel.

Advertisements.—Read them carefully. They are all of reasonable interest to the farmer.

The Maryland Agricultural College.

The meeting of the stockholders of this institution will be held in Baltimore on Wednesday, the 14th instant. Due notice of the hour and place will be given in the daily papers.

Our suggestion last month that the former pupils and alumni should take some part in this meeting sprang from a knowledge of the fact that in some of the Northern colleges the alumni elect a certain number, perhaps in some cases all, of their Regents or Trustees, but it is probably not a practicable one, owing to the necessity in executing proxies of having them certified under affidavit, and unless a voter, no one would be entitled to a voice.

Concerning the future direction of the college, it may not be improper for us to add something to what has been said elsewhere by Messrs. Davis and McHenry.

We agree with Mr. Davis that of all grotesque expedients to avert financial disaster this one of a nautical school is the most absurd; and the selection of a military man for president is only second to it. We have no acquaintance with the president nor the instructor in naval science, and they may be eminent in their respective professions, but this college is no place for them nor for such branches as they are to teach.

The specific object of its founders, the plea upon which the State agreed to contribute to its support, the condition of its receiving the income from the investment of the proceeds of the sale of the U. S. scrip, were that "the leading object of said college shall be * * * to teach such branches of learning as are related to agriculture and the mechanic arts." Yet the circular which Mr. Davis incloses to us, as distinctly states, to the contrary, that "special attention will be given to preparing candidates for admission to the U. S. Military and Naval Academies," and Mr. McHenry says he has never considered "that the college taught practical agriculture in the sense and to the extent contemplated by its founders, and called for by its charter."

The board has further, by a vote, which its President declines to accept as sufficient, sought to vacate not only the chair of the professor of languages but also those of the professors of agriculture and of chemistry, and made no provision for any appointments to replace them.

Is there then any one feature about the college distinctly agricultural?

It is prudent, perhaps, as suggested by Mr. McHenry, to refrain from discussions of its past and look only to the future of the college.

We are opposed to the surrender to the State of the interests of its stockholders. This from its liability to be made only a political machine, subject to all the vicissitudes due to endless mutations in administrations and parties.

The proposal to sell the property and abandon the charter would be better than this, and the end would only be more immediate.

The position of Mr. McHenry, however, is that one which we believe most practicable and most expedient, as well as best calculated to lead back to the uses intended by the founders of the institution the franchises and privileges it enjoys, and thus rehabilitate it and give it a new start.

Let it be made, in reality, an agricultural school. The experiment is nowhere a success of combining liberal and practical education. Abandoning the humanities, give the opportunity for acquiring a good solid English education, with full instruction in those sciences which pertain to agriculture in all its branches. Teach agriculture as a practical art. Give sufficient proficiency in Mathematics and Physics, in Geology, and, especially, Chemistry, in Entomology and Botany, to be actually helpful to the sons of farmers who intend to be farmers themselves. Those other sons of farmers who seek a "liberal" education only to escape the farmer's vocation may go elsewhere to receive it. The State and private means abundantly provide for them. If this institution is not *agricultural* it is nothing.

Establish further, as the charter requires, a Model and Experimental Farm, patterned somewhat after the Experimental Stations of Continental Europe, and fitted to help in the work of establishing general principles for the guidance of farmers, instead of, as now, every man experimenting for himself (or, not at all—following the traditions of the elders)—without arriving at any well-determined mode of practice as the result of his inquiries.

With the right men in charge—and they can surely be found—this would be a useful institution and a popular one. It would doubtless have to begin modestly and work up from small beginnings, extending its base with its achieved success.

With the examples of Michigan and Massachusetts, and the work being done in them, and the progress made in Virginia and Kansas, it can no longer be conceded that all the agricultural colleges are failures. Shall Maryland, the first State to move in the work and to create such a school, surrender the attempt and admit that, with her, the problem is not only unsolved but unsolvable?

We trust that the stockholders will attend this meeting, and that there will be an earnest effort made to put the college in a position less discreditable to our State than the one it now occupies.

To do this is, as it seems to us, a positive duty resting upon them.

Another Change in the Postal Laws.

Congress before its adjournment, after reviving for the benefit of its own members a modified franking privilege, uncalled for and unneeded by the people, amended the law providing for the carrying in the mails of third-class matter, which includes merchandise, seeds, plants, books, transient magazines and newspapers, &c., so that double the former rates will hereafter be charged. That is, instead of one cent for every two ounces, the postage is now one cent for every ounce or fraction of an ounce. The change was made in the confusion of the closing hours of the session, and it is said the amendment was surreptitiously introduced. It undoubtedly would seem to have been passed in the interest of the express companies, who were endeavoring to abolish entirely the parcel post.

This bears with especial hardship upon the seedsmen, florists, and nurserymen, who, having established their prices for the season upon the basis of the old rates, now find these without notice, suddenly doubled. The privilege of using the mails for carrying third-class matter is one of great consequence to country people remote from large towns.

The unlooked-for change "sprung" on those who thus use the mails cannot be otherwise characterized than as an outrage unworthy of an American Congress.

If our correspondent *Potomac* had not abandoned his *nom de plume*, we should this month probably have excided some of his sentences, but as all will now know where to place the responsibility for them, we refrain.

THE ESTABLISHMENT OF MESSRS. GEO. C. HICKS & CO., whose advertisement will be found renewed in this issue, is a very extensive one, and is prepared to furnish on the shortest notice, in unlimited quantities, Drain Tiles, Fire Brick, Retorts and other specialties of their manufacture.

MR. JOHN SAUL, Washington, sends us his Catalogue for 1875, with a very handsome plate of a new Pelargonium, Queen Victoria, and filled with almost endless lists of new and handsome things.

The State Agricultural Society.

From many sections of the State we have received endorsements of our views concerning this Society. We have a hope in the intelligence of our young farmers. The last monthly meeting, referred to elsewhere, was encouraging from the presence and interest of a number of these. If all such in every county will take hold, we can have a society useful and honorable to our State. With such an infusion of young blood from every part of Maryland, and the removal from Pimlico to an eligible location of the Show Grounds, the society may become an influence for good.

Miller & Hayes' Catalogues.

This firm have sent us copies of their rose and general catalogues for the Spring of 1875,—both dainty little volumes, and containing lists of very full and handsome collections of plants. Roses are their specialties, and if any think that flower has reached perfection, they ought to visit the beautiful establishment of these gentlemen and see the newer varieties, many of which, in tint, form and perfume, equal, if they do not surpass the old favorites. A plate of the Miller-Hayes' Rose, originated, by Mons. E. Verdier, adorns their rose catalogue. Send for copies in anticipation of ordering.

A NEW candidate for the favors of the agricultural community are found in the firm of S. Cottingham, Jr., & Co., of No. 38 N. Paca St., where they have recently established themselves in the Agricultural Implement and Machinery business, having on hand a desirable stock of all kinds, and an assortment of fresh seeds.

We wish the new concern prosperity and bespeak for them a liberal patronage.

The firm of Wm. Corse & Sons is a very old-established one, long known and respected in this section. On their grounds they have now, as we are informed, a very extensive assortment of nursery stock of all kinds, to which, in our advertising pages, they invite attention.

THE DASH LAMPS advertised elsewhere in the *Farmer*, have been used with great satisfaction by us. They seem to fill a want much felt, being effective as a carriage lamp, and being detachable they are useful as a hand lantern. They are especially good for the barn and stables, and we have also found them very well suited for use in the greenhouse. The material and workmanship, though plain, seem of the best quality.

MR. ROBERT J. HALLIDAY'S advertisement is recommended to the attention of all lovers of plants.

Maryland State Agricultural Society.

The regular monthly meeting was held on 4th ult. President Davis, from the committee appointed at the previous meeting to confer with the Maryland Institute and Maryland Horticultural Society, with a view to co-operation by the three associations, reported that nothing had so far been accomplished in the matter. The subject selected for discussion at this meeting, was the "application of barn-yard manures," but Mr. William Webster, who was to have led off in the discussion, not being present, and other members of the committee not being willing to enter on it until after he had presented his views, it was ordered that the question be deferred to the May meeting. Mr. Lawrence read a lengthy essay on the utilization of night soil, with a digression upon the deleterious effects upon health of defective systems of sewage, and concluding by suggesting the advantage to be found in the use of earth closets.

Mr. Ditty, of Baltimore county, approved of the use of dry earth in the manipulation of sewerage and garbage, and offered a resolution commending the subject to the consideration of the city authorities, which, after some discussion by the mover and Mr. C. K. Harrison, of Baltimore county, was adopted, the latter gentleman contending that the system had been tried in Europe, and found to be a failure.

The subject of fattening cattle for market was then called for by Mr. Coke, of Baltimore county, and the President called on Mr. R. Harris Archer, of Harford county, to give his experiences upon it. The remarks of Mr. Archer had the effect of giving considerable interest to the meeting, and we were gratified to find that a number of young farmers were alive to the importance of the subject. Mr. Archer, at our request, has furnished for the *Farmer* a brief abstract of his views, as presented at the meeting, which will be found in our "Live Stock" department, and, by request, will continue the discussion at the June meeting, when it will again be called up.

Mr. Lurman, of Baltimore county, said one might as well give a cow pulverized corks as ground corn cobs; one was as nutritive as the other. He gave his cattle a mixture of sixteen pounds of clover hay with nine pounds of corn chop. This made them fat, and he expected to realize 100 per cent. on cost when he sold them.

Mr. Harrison disputed the assertion that fattening cattle was a profitable business near a large city. Very little could be made at it.

C. T. Cockey, of Baltimore county, said he could bale eighteen tons of hay per week in season, and he was anxious to know if fattening cattle would pay better.

Mr. Dorsey Thompson, of Howard county, asked Mr. Archer if his cattle did not bring less per pound in July than if he had sold them in April.

Mr. Archer said he sold to Philadelphia, which pays better prices than Baltimore.

Mr. Harrison said he had some experience in raising cattle, and had found that he made \$10 profit per head on them. They sold for eight cents per pound, having cost him four cents per pound, and caring for and feeding them just

about balanced the profit by their increase in weight.

A beautiful specimen of wool from Lincolnshire sheep, raised in London, Canada, was presented by George P. Thomas, of Frederick county.

Mr J. E. Parry, a delegate from the Forest Hill Farmers' Club, Harford county, presented his credentials.

Messrs. Griffith and Turner, of Baltimore, presented a sample of pure ground bone, a specimen selection of select cloverseed, and some very fine corn, on and off the cob.

Mr. William Trimble, delegate from the Harford County Farmers' Club, said his was a new organization, but one that was encouragingly advancing.

We would take occasion here to remark that the invitation given to the several associations through the State to send delegations to attend and take part in the discussions of the society was well responded to, and we hope that it will hereafter create lively interest in them, by the practical men of the State giving their aid in this direction.

The Maryland State Grange.

The State Grange of Maryland held its annual session in Baltimore, on 2d ult.; the meeting lasted until the evening of the 5th, some fifty granges being represented. The meeting was called to order by Worthy Master Jos. T. Moore, of Montgomery county. Dr. Woodruff, of Somerset county, was called to the position of overseer, to fill the temporary vacancy occasioned by the absence of the worthy overseer, J. M. Barr, of Kent county. After a report had been made by the committee on credentials, Worthy Master Moore read his annual report, which contained valuable suggestions for the good of the order, and a statement of the working of the grange and of the national grange. Worthy Secretary Hall and Worthy Treasurer Cheswell read also their reports, the latter showing that a balance of only a little over \$600 is now on hand. The secretary reported an increase of eighty-eight granges since last March. At the session on the last day, Dr. A. D. Woodruff, of Somerset county, was elected overseer, vice Joseph M. Barr, of Kent county. William Hepbron was re-elected gatekeeper. The grange then took action looking to constituting county and district granges so as to have a closer union of subordinate lodges. The grange adjourned at midnight to meet in Frederick the second Tuesday in March, 1876.

Baltimore Co. Clubs.

At a meeting of the Union Club, Cockeysville, a report on the advisability of holding a county fair was made. Mr. Rankin, the President, said: "If the State agricultural fair could be revived and made successful, then he was opposed to holding any other fair in the county; but if the coming fair was to be no better than those of past years, if no proper means of conveyance to and from the grounds was to be provided, then he was certainly in favor of Baltimore county holding a distinct fair and withholding patronage from the State Show." And on his motion, a committee, consisting of Messrs. Rankin, Crowther and Ed. Scott, were appointed to invite all farmers and members

of farmers' clubs in the county to meet at Duncan's Hall on 5th June, to discuss the subject of holding a county fair. Mr. W. Webster, in the course of the discussion on this subject, said there was a proposition by the Western Md. road to run a track to Pimlico, provided the Union tunnel could be used. He said also an attempt had been made to get the Park Commissioners to allow a railroad through Druid Hill Park to Pimlico show grounds, but they had very positively refused to do so.

Hygiene.

Health and Strength.—No. 2.

BY JANE BOSWELL MOORE.

Northern corn, we find, contains twelve per cent. of nitrates or muscle-making elements, and sixty-seven of carbo-hydrates, while Southern corn used in preparing pearl and breakfast hominy in the Potomac Mills of Alexandria, Va., has thirty per cent. of nitrates and thirty-nine of carbo-hydrates. Some time ago, I saw in a paper of wide circulation the example of a little girl held up to imitation, who went without butter, gaining from her parents a penny per day during the winter, to give to good objects. She died as the winter drew to a close, and "her little self-denial" was commended. Yet in the long table of nutritive values before me only two other articles have the same value as butter in producing heat—and butter has *one hundred* per cent. of carbo-hydrates. Did the little child need that heat, or could she spare it? How many grown men will give up for such a purpose tobacco, cigars and spirits, which they know to be *really* hurtful.

In this country it is comparatively rare to find an adult whose teeth are free from decay. Most of the exceptions are those of foreigners, and English, Scotch and Irish children are largely fed on oatmeal and milk. Dr. Robert Arthur, in his popular treatise on the "Treatment and Prevention of Decay of the Teeth," tells some startling facts. His figures may well lead us to think, for it is inconceivable that the great architect, whose work in its minutest details is perfect, should intend that the teeth, if properly understood and cared for, should cause such suffering. In the United States, twelve thousand persons are engaged in the practice of dentistry; three millions of artificial teeth are made and sold yearly to supply the place of those lost; the number extracted yearly, is estimated at twenty millions. Three tons of pure gold are yearly used here in making gold foil, exclusively for filling the teeth,—this selling for three millions of dollars. Can any one doubt that the decay of the teeth, causing impure breath and diseased stomach, leads to ill-health, nervous debility and a train of innumerable evils? Pure air is also necessary to preserve the teeth, and Americans do not, as a people, live in the open air. In my experience, I have found that whenever I have been confined to the house for several months without taking medicine, one of the first visits I had to make on going out again, was to the dentist. To the wholesale adulteration of milk, we may largely attribute the appalling statistics we have given! The small amount of nutriment in baker's bread is another evident cause.



Baltimore Enterprise.

We copy the following complimentary notice of Mr. Durborow's House from the *Baltimore Herald*:

Truly and justly proud should we be of the fame of the Kirby Reaping and Mowing Machines. "It has extended to the uttermost parts of the earth," and is echoed back in a constantly increasing demand for them. *The Kirby is sold all over the world.* Their wonderful success is unparalleled in the history of harvesting machinery, and is a more emphatic and conclusive proof of their merits than words can be. We copy with pleasure the following extract from the *Chicago Evening Journal*, being part of a letter written from Auburn, New York, to that paper, by one of its editors:

"I write from the home of the Kirbys, for Auburn is the cradle where are born those giants of the harvest, the Kirby Reaping and Mowing Machines. The buildings cover more than forty-seven thousand square feet of ground, and comprise upward of one hundred and twenty-two thousand square feet of flooring. Such, in brief, is the home of the Kirbys,—an establishment of which the proprietors, Messrs. D. M. Osborne & Co., may justly be proud, for it is the most complete of its kind in America. Each and every portion of their machines is manufactured here, which is more than can be said of any other similar works.

"It is a municipality in itself, requiring for its successful government the highest order of administrative and executive ability. How well Messrs. D. M. Osborne & Co. have conducted the vast interests of their establishment is amply attested by the immense success that has crowned their efforts. The Kirby reapers and mowers are known the wide world over. They have won their way to deserved popularity throughout Europe and the United States. They have contested for the palm of superiority in the field trials wherever the grain harvest has displayed its golden banners, until the Kirby coat of arms is fairly resplendent with courtly medals that tell of victories won. Many thousands of these machines are sent to the harvest fields every year, and still the demand

increases. Such facts as these are eloquent. It is a language that appeals to every practical mind; it expresses the superiority of the Kirby machines better than any mere words could do. The Kirby is more than a reaper, for it is also a sower; it reaps the harvest so superbly and so satisfactorily that an entire crop of Kirbys is certain to spring up in the neighborhood of its performance."

The Baltimore Branch Office and General Depot for the sale of these celebrated machines is located at 55 Light street, Baltimore, Md. Mr. John C. Durborow is the manager, having charge of Maryland, Virginia and Delaware, and the South, to whom all inquiries should be addressed. Mr. Durborow has also combined with his reaper trade, a general agricultural business, and among his specialties we notice the EXCELSIOR Portable Engine Cylinder, using dry steam, which gives it an advantage over all other portable engines; and also the celebrated Harman Wheel Horse Rake, the Philadelphia Lawn Mower, Lockwood's Steel Hoe, Westminster Triple-Geared Horse Powers, Diamond State and other improved Threshers, Ball's Steel Plows, Kinyon's Meat Choppers, Cucumber Wood Pumps, Plows, Castings, and many other small articles used in the agricultural line.

Call upon Mr. Durborow at any time. He will be glad to show his goods, and furnish any information relating to articles in his line.

Or you can order from him with the assurance that your orders will be filled to your entire satisfaction, for all the goods he sells are guaranteed. *

Baltimore Markets, March 29.

The quotations below are Wholesale Prices.

Breadstuffs.—*Flour.*—More active and prices maintained. Quotations: Howard St. Super. \$4.25@4.75; do. Extra. \$4.87@5.35; do. Family. \$5.50@6.60. Ohio and Indiana Super. \$4.25@4.75; do. Extra. \$4.87@5.35; do. Family. \$5.37@6.50. City Mills Super. \$4.00@4.50; do. low to medium Extra. \$4.87@5.50; do. Rio brands do. \$6.00@6.50; City Fancy brands. \$8.00@8.25. Fine flour, \$3.75@4.00; Rye flour, \$5.35@5.75; Corn Meal, city, \$4.25; Western, \$3.75@4.00.

Wheat.—Quiet but steady. Sales of good Southern white at 125 cents; do. red, good to prime, 125@130 cents. Penna. red, 125@126 cents.

Corn.—Sales of Southern white at 85 cents; do. yellow, 83 cents. Western mixed, 84 cents.

Oats.—Steady, with sales of Southern at 60@71 cents.

Rye.—Dull, with quotations at 102@105 cents.

Broom Corn.—Common, 9@10 cents; Mixed, 11@12 cents; Medium green, 12@13 cents; Choice Hurl, 14 cents.

Cotton.—Quiet but firm. Quotations range as follows: Middling uplands, 15½ cents; low middlings 16½ @16 cents; good ordinary 15½@15½ cents.

Hay and Straw.—Cecil Co. Md., Timothy, baled, \$21@23. Penna. do. \$19@21; Mixed, \$16@18; Clover, \$14@15. Oat Straw, \$14; Rye, \$13@14; Wheat, \$13.00.

Mill Feed.—City Mills Brownstuff, \$30; Western, \$27; do. Middlings, \$30 ½ ton. By bushel, Brownstuff, 29 cents; light middlings, 34 cents; heavy do. 45@50 cts.

Onions.—Eastern red and yellow, \$3 ½ bbl.

No. 10 Bowly's wharf, Baltimore.

BOUDREN'S PATENT

Price \$6 each by Express,

C. O. D.



With full privilege of examination before payment.

**Adjustable Dash Lamp
FOR NIGHT DRIVING.**

FOR THE USE OF

DOCTORS, PRIVATE GENTLEMEN, MARKET GARDENERS, LIVERY STABLE KEEPERS, AND ALL OTHERS HAVING OCCASION TO DRIVE DARK NIGHTS.

Throws a powerful light **100 Feet Ahead** of the horse. Burns Kerosene, without a chimney. 10 hours after one filling. Fits any shaped Dash, or on any vehicle. Splendid Barn Lantern,—also good for hunting. The light is not affected by wind, rain or jolting. Try one and you will be pleased with it. Send for Circular.

White Manufacturing Co.,
Fine Carriage Lamps and Mountings,
**STEAM FIRE ENGINE SIGNALS
AND SIDE LAMPS.**

mh-

BRIDGEPORT, CONN.

WALL PAPERS and WINDOW SHADES.

The new style of FRENCH GROUND Wall Papers made by **HOWELL & BROTHERS**, are superseding the old style of Blank Papers formerly used. The pores of the Paper being filled with color before the figure is printed on, makes the paper heavier and much more durable. *The price is the same as the old style blanks.* Ask your Paper-Hanger for it. Samples sent by mail to any Address.
ap-3t **260 Baltimore St., opp. Hanover.**

New Colors of Window Hollands.

Just received by **HOWELL & BROTHERS**, the new colors **Scotch** as well as **American Hollands** and **Oswego Shade Cloth**. These Goods are of fine texture and superior finish, made and imported expressly for our Retail Trade. Also on hand a fine assortment of Fringes, Tassels, Shade Fixtures, &c.

Workmen sent to all parts of the city to put up Window Shades. Samples mailed by letter if required.
ap-3t **260 BALTIMORE ST., OPP. HANOVER.**

**NEW
HARDY PLANTS.**

W. D. BRACKENRIDGE, Nurseryman, Govanstown, Balto. Co., Md., offers 1,000 Plants of the beautiful long-spurred yellow-flowered *Aquilegia Chrysantha*, from the Rocky Mountains; also 1,000 *A. Cornuta*, likewise long-spurred, and of a deep blue and white color, both of which are rare in collections, and entirely hardy as far East as Boston.

Prices on application by letter.

ap

**EDWARDS'
SUPER-PHOSPHATE.**

THE CONCENTRATED MANURE.

This celebrated Fertilizer always produces full crops of WHEAT, RYE, OATS, TOBACCO, COTTON, CORN and POTATOES.

It is a permanent improver of the soil wherever it is applied.

CASH PRICE \$50 PER TON 2,000 LBS., in 10 bags. Delivered on cars or boats in Baltimore. Manufactured by

E. G. EDWARDS & CO.

No. 21 Cheapside, Baltimore, Md.

N. B.—Our Phosphate Pamphlets, with Certificates from prominent farmers, sent free on application.
ap-3t

ESTABLISHED 1837.

*My Illustrated Catalogue of New
Plants for 1875 mailed free to all.*

APPLICANTS ADDRESS,

ROBT. J. HALLIDAY,
BALTIMORE.

No. 230 West Baltimore Street, corner of Charles.
Green House Department, Pennsylvania Ave. and Dolphin St.

SEND FOR CATALOGUES.

**Green House Plants
OF ALL KINDS.**

**ROBERT J. HALLIDAY'S
Seed Store,**

ap-3t



Double Harpoon,

THE BEST

HORSE HAY-FORK.

Descriptive Catalogue Sent Free.

PENNOCK MANUFACTURING CO.

Kennett Square, Chester Co., Pa.

ap-31

W. A. MYERS,

New Oxford, Pa.



Will spare EGGS FOR HATCHING from his choice stock of Light and Dark Brahmas, White, Buff and Partridge Cochins, W. Leghorns, White Holland and Bronze Turkeys.

My stock is unsurpassed, and includes many prize winners. Send stamp for Price List.

ap-17

ROSES. New Catalogue. ROSES.

Our descriptive ROSE CATALOGUE of 1875, containing over 500 named varieties, grown by us on their own roots, embracing all the latest novelties and best old varieties, now ready for distribution. Copies with colored plate 10 cents. Plain Copies sent on receipt of stamp.

MILLER & HAYES.

Mount Airy Nurseries, 8774 Germantown Avenue,

ap-11

PHILADELPHIA, PA.

Seeds!

Mammoth Mangel Wurzel,
Imperial Sugar Beet,
(75 cts. per lb.)

Large Flat Dutch Cabbage,
Early and Late Peas,
Beans, Cucumber, Corn,
Onion Seed, Onion Sets,
Lawn Grass and Flower Seeds.

J. BOLGIANO & SON,

SEEDSMEN,

28 S. Calvert Street. BALTIMORE, MD.

ap-17

FOR SALE.

The high-bred Trotting Stallion **CLAIRMONT** is a dark chestnut, near 16 hands high, good bone and muscle. In fact one of the best sized stock horses for all purposes ever offered in our State.

Address to

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No. 40 Ensor Street, Baltimore,

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Implements, Tools, &c.

FRESH AND RELIABLE

Field and Garden Seeds, Ground Bone, &c.

Also, the CELEBRATED CUCUMBER WOOD PUMPS, for shallow and deep wells.

REPAIRING MOWING MACHINES, PLOWS, &c. a specialty. A call is solicited.

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CONTAINING, PER PROF. LIEBIG'S ANALYSIS:

3 per cent. Ammonia.

26 " Bone Phos. of Lime.

\$25 PER TON---CASH.

Manufactured and For Sale by

ELDER & HARDESTY,

mh-31

36 W. LOMBARD ST., BALTIMORE.

IMPORTANT.

TRUSSES, SHOULDER-BRACES, ELASTIC STOCKINGS, SUSPENSORIES, SYRINGES, INHALERS, &c. HYDROMETERS, THERMOMETERS, MICROSCOPES, STEREOSCOPES, MAGNIFYING GLASSES, &c., &c.

No. 135 W. Fayette St., (above Park St.)

BALTIMORE, MD.

d-17

E. V. DAILY.

Pure Ground Bone. Eastern Shore Nurseries.

PRICE REDUCED.

Our Mill is situated in the open Country, immediately among our customers.

It is at all times open to the thorough inspection of all interested, who have every opportunity afforded them of knowing that in purchasing from us they get exactly what they pay for. Our prices are now as follows:

Delivered at all Stations on P. W. & B. E. R., including Balto. **GROUND BONE \$12,**
BONE MEAL \$11.

We will refund \$1 per ton for return of bags within thirty days, free of cost to us. We make no PHOSPHATES; our Mill being devoted exclusively to the business of Pulverizing Bone.

Samples and Circulars sent on application.

THOS. WARING & BRO.

ap-1f

COLORA, CECIL CO., MD.

1,000,000 No. 1 one-year Plants of **Conover's Asparagus**, at \$3 per 1,000; **Concord Grape**, 1 year, selected, at \$30 per 1,000.

Houghton Gooseberry, 1 year, \$25 per 1,000, and all other kinds of Nursery Stock—healthy, vigorous and true to name; cheaper than any other reliable Nursery offers south of Penna.—

Apple Trees a specialty; kinds suited to Maryland and Virginia, 3 and 4 years old—5 to 7 feet—\$10 per 100.

Send for Spring Price-List—mailed free to all applicants.

J. W. KERR,

Denton, Caroline Co., Md.

POUDRETTE.

AMERICAN AMMONIATED POUDRETTE

Manufactured and Sold for 21 Years.

The Planter's, Farmer's, and Gardener's Friend.

BETTER THAN SUPER-PHOSPHATES & ONE-HALF THE COST.

The only Test, a Trial.

In fine dry condition for drilling. The seed will receive no injury from contact with the Poudrette. **No Worm will stay in a Hill of Corn or Drill of Seed where the Poudrette is placed.**

The **American Ammoniated Poudrette**, if used even to excess, never changes the agreeable flavor of fruits leaves or roots, but develops all their aromatic properties.

Price \$25 per ton, 2,000 lbs.

Packed in good strong bags, 10 bags to the ton. Delivered free of charge to any of the railroad or steamboat landings in Baltimore. Orders promptly filled and respectfully solicited.

LIBERAL DISCOUNT TO DEALERS. Address

LOUIS STOW, Sole Agent for Maryland and Southern States. Office: **28 Bowly's Wharf**, Baltimore, Md., P. O. Box, 387. **W. S. OFFUTT**, Salesman. ap-3m

EDWD. J. EVANS & CO.

WHOLESALE AND RETAIL

NURSERYMEN AND SEEDSMEN, YORK, PENNA.

A complete assortment of Standard and Dwarf **FRUIT TREES**, **SHADE** and **ORNAMENTAL TREES**, **EVERGREENS**, Hardy Ornamental and Climbing **SHRUBS**, **GRAPES**, **SMALL FRUITS**, **HEDGE PLANTS**, &c.

Garden and Flower Seeds, Grass Seeds, Seed Potatoes, Seed Corn, Oats, Wheat, Hedge Seeds, &c., and **HORTICULTURAL GOODS** of all kinds.

Descriptive Catalogues and Price Lists mailed to applicants.

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THE AMERICAN FARMER.

JOHN C. DURBOROW,

GENERAL AGENT FOR

The Kirby Mowers and Reapers,

55

Light street,

BALTIMORE,

MARYLAND.



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Light street,

BALTIMORE,

MARYLAND.

Simple, Strong and Durable.

Positively no side draft. No weight on the horses' necks. Every machine fully guaranteed. The constantly increasing demand for the KIRBY machine has placed them in the front rank of harvesters, and we invite the closest examination of our machines by all who desire to buy, being fully convinced that they are unsurpassed by any in the market.

Send for our Illustrated Paper and Catalogue.

ALSO, DEALERS IN ALL KINDS OF

Agricultural Implements, Seeds, Fertilizers, &c.

ALSO, AGENT FOR

THE HARMAN WHEEL HORSE-RAKE,

THE "EXCELSIOR" PORTABLE ENGINE,

Cylinder Using Dry Steam,

The best Portable Engine made. It possesses superior advantages over any Engine in the market for Agricultural use, or for any use to which Power is applied.

SOLD AT A LOW PRICE AND ON EASY TERMS.

Send for descriptive Circular and Price List, to

JOHN C. DURBOROW,

55 Light St., near Pratt,

BALTIMORE, MD.

THE AMERICAN FARMER.

TO TOBACCO PLANTERS.

1858



1875

Seventeen Years' Experience

By Planters of Maryland and Virginia in growing Tobacco has convinced the most skeptical that

"EXCELSIOR"

HAS NO EQUAL

in growing and maturing that crop. It is now their unanimous opinion that "from the application of EXCELSIOR the crop is heavier, of finer quality, cures earlier, and is not so liable to suffer drought, as from the use of Peruvian Guano."

We refer to every Planter in Maryland.

Uniformity of quality guaranteed by the Manufacturers.

PRICE \$55 PER TON.

J. J. TURNER & CO., 42 Pratt St., Baltimore, Md.

To Corn Growers & Tobacco Planters

J. J. TURNER & CO.'S

AMMONIATED



BONE SUPER-PHOSPHATE.

ANALYSIS.

Ammonia,	3.18
Soluble Phosphate of Lime,	23.91
Bone Phosphate of Lime,	3.15

Composed of the most concentrated materials, it is

Richer in Ammonia and Soluble Phosphates

THAN ANY OTHER FERTILIZER SOLD,

and is made with the same care and supervision as our EXCELSIOR, its only competitor. Uniform quality guaranteed. Fine and dry, in excellent order for drilling. Packed in bags.

PRICE \$45 PER TON.

J. J. TURNER & CO.

42 Pratt Street, Baltimore.

THE AMERICAN FARMER.

LINTON & CO.

Manufacturers of

MACHINE-MADE POTS.

Pots for Propagating Cotton Plants for Early Planting, Pots for forcing Jute,
also Turpentine Pots.

These Pots are made with the most approved machinery from tempered clay. The quantities made by us per day are from 3,000 to 6,000.

We have always on hand a large assortment of FLOWER POTS. Having improved facilities for the manufacture of FLOWER POTS, and giving the same our entire attention, we are enabled to supply the market with an article which, for neatness, durability and cheapness we defy competition.

These Pots can be safely shipped to any part of the United States in lots to suit; also, URNS, BIRD BOXES and HANGING BASKETS.

LINTON & CO.

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Corner Lexington and Pine Sts., Baltimore, Md.

BALTIMORE

RETORT AND FIRE BRICK WORKS.

GEORGE C. HICKS & CO.

MANUFACTURERS OF

CLAY RETORTS, TILES, FIRE BRICK,

VITRIFIED STEAM-PRESSED

Drain and Sewer Pipe, Stove Lining, &c.

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Manufactory, Locust Point, Balt. Office, 4 S. Holliday St.

ESTABLISHED 1828.

Clairmont and Firley Hall Nursery,

BEL-AIR ROAD, BALTIMORE COUNTY.

1,000,000 FRUIT AND ORNAMENTAL TREES, FOREIGN AND DOMESTIC,
FOR SALE.

100,000 STANDARD APPLE TREES OF DIFFERENT VARIETIES AND SIZES
Prices from \$5 to \$20 per hundred, according to size and quality of stock.

50,000 STANDARD AND DWARF PEAR TREES OF VARIOUS SIZES AND
QUALITIES. 15,000 of these must be sold to clear leased land.

THE FINEST EVERGREENS IN THE COUNTRY—Norway Spruce, Hemlock Spruce, Silver Fir, American Arbor Vitæ, Golden Arbor Vitæ, Siberian Arbor Vitæ, Hovey's Golden Arbor Vitæ, Thuja Ericoides, Thuja Compacta, Thuja Globosa, Thuja Pyramidalis, Irish and Chinese Juniper, Irish Yew, Magnolia Grandiflora, &c.

SHADE TREES FOR AVENUES.

Silver Maple, Sugar Maple, Scarlet Maple, Ash Leaf Maple, English Ash, White Ash, Black Ash, Tulip and Silver Poplar, Weeping Elm, American and English Linden.

Hardy Flowers and Shrubbery.

Grape Vines, Currant and Gooseberry Bushes, Blackberry, Strawberry and Raspberry.

A large Variety of IMPORTED TREES, PLANTS, AND SHRUBBERY just received.

Give us a Call and Examine our Stock before Purchasing.

NURSERY can be reached by GAY STREET LINE OF CARS, from Baltimore.

WM. CORSE & SON,

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P. O. Box 248, BALTIMORE, MD.

BUCKEYE MOWER AND REAPER, SWEEPSTAKES THRESHER AND CLEANER.

The Truth is mighty and will prevail!

**28,000 Buckeye Mowers and Reapers,
And 1,500 Sweepstakes Threshers**

Sold in the United States alone during the season of 1874.

Farmers, do you want any more emphatic endorsement than this of the superior merits of these machines? Do not allow yourselves to be humbugged by the extravagant representations of agents for other machines.

The BUCKEYE and the SWEEPSTAKES are the STANDARDS, and when you buy either or both of them you are sure to get your money's worth, and to have machines that will last you, with proper care, 15 years and probably longer.

The BUCKEYE MILLER TABLE RAKE REAPER carried off the highest honors at almost every field-trial of 1874, and it has been plainly demonstrated that it is the simplest, best and easiest Reaper to bind after in the market.

Several valuable improvements have been added to the BUCKEYE and SWEEPSTAKES since last harvest, and manufacturers are determined to spare no pains or expense to keep them ahead of all competitors, which position they have occupied ever since their first introduction.

ECLIPSE
Agricultural
ENGINE.



**Best, Cheapest,
and most
Economical Engine
in the Market.**

Awarded first Premium at Cincinnati Exposition, 1874: Maryland State Agricultural Society, 1874, and Silver Medal at Virginia State Agricultural Society, 1874.

Thoroughly warranted in every respect, and especially adapted to wants of Threshermen, Sawing Lumber, Farm Work, &c.

**Circular Saw Mills, Hagerstown Wheel Horse Rake,
Perry's New York Hay Feeder, Lockwood Steel Hoes,
Mill Stones, Bolting Cloths, Eureka and other Smut Machines,
Belting, Spindles, Mill Picks, Portable Farm & Grist Mills, &c.**

JOSHUA THOMAS,

53 Light St., Baltimore, Md.

 Prices and Descriptive Circulars Furnished on Application.

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THE AMERICAN FARMER.

The Only Reliable Source of Rich Potash Salts.

For Cotton, Tobacco, Corn, Wheat, Sugar-Cane, Potatoes, Fruits & Grass.

The "Genuine Unmanufactured and Unadulterated Leopoldshall Kalnit," (Potash Salts,) as wrought from the Duca Anhalt Mines, Germany, and imported into the United States by myself as Sole Agent and Importer.

The Richest, only Reliable and most Extensive Deposit of Natural "Kalnit" Known to the World.

Genuine Leopoldshall Kalnit should always be used in connection with other Manures.

I am now prepared to fill orders for the Farmers and Planters direct, in quantities of one ton and upwards.

Having been apprised of the many frauds that have been practised upon the Farmers and Planters, by forcing upon them inferior articles, under the name of Kalnit; (thus leading them to believe they were getting the Genuine Leopoldshall Kalnit; when in fact they were only getting a common refuse calcined salt;) the attention of all Agriculturists is respectfully solicited to the following

CAUTION.

"Owing to the perpetual injunctions, a copy of which can be seen at my office, granted in November, 1872, by the High Court of Chancery for England against several parties, restraining them from using the title 'GENUINE LEOPOLDSHALL KALNIT,' or a colorable imitation thereof, the vendors of manufactured articles have since then been very careful not to offer their compounds under the above or a glaringly similar name in that country, and are now seeking a market for their low grades and almost worthless (as far as agricultural value is concerned) materials, by shipping them to the United States."

I advise all to send to me for Circulars, that will give you the opinions of some of the most reliable "Agricultural Chemists" in the world, as regards the benefits to be derived from the use of "G. L. Kalnit," and also how to apply it.

Send for Samples, and familiarize yourselves with the appearance of the "G. L. Kalnit," so that you may not be deceived.

Price \$24.00 per Ton, 2,000 lbs. packed in strong Bags, delivered on board vessel or cars at Baltimore.

CASH MUST ACCOMPANY ALL ORDERS.

WINFIELD S. DUNAN,

20 and 22 South Street, Baltimore.

Sole Agent and Importer for the United States.

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Please Show this Advertisement to your Neighbor.

MORO PHILLIPS, Manufacturing Chemist, MANUFACTURER OF ACIDS AND CHEMICALS.

MORO PHILLIPS' SUPER-PHOSPHATE, the best Grain and Cotton Producer in the market.
MORO PHILLIPS' PURE PHUINE, the best fertilizer for Truckers we know of.
MORO PHILLIPS' TOBACCO INVIGORATOR, prepared especially for Tobacco.
SERRANA GUANO, a natural organic deposit.

For Sale at Manufacturer's Depots: { 110 S. Delaware Ave., Phila., Pa.
95 South Street, Baltimore, Md.

AND BY TRADE GENERALLY. DISCOUNT TO DEALERS.

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MARYLAND POUDRETTE,

RICH IN PHOSPHATES, AMMONIA AND OTHER ALKALINE SALTS, as per analysis, containing in one ton of 2,000 pounds, say

34 pounds Ammonia,
39 pounds Potash,
38 pounds Phosphoric Acid.

Also, LIME, MAGNESIA, and other valuable constituents in smaller quantities. For sale, packed in barrels or bags, \$15 per ton, 2,000 pounds, by

HEALTH DEPARTMENT,

28 Holliday Street, Baltimore.

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THE AMERICAN FARMER.

FOR CORN, OATS, TOBACCO.

Soluble Pacific Guano

Is unsurpassed, as 10 years' experience by
the leading Farmers and Planters
in the Country abund-
antly verifies.

JOHN S. REESE & CO.

General Agents, BALTIMORE, MD.

ap-3m

BAUGH & SONS,

Manufacturers and Importers

HIGH GRADE MANURE FOR TOBACCO.

Contains Ammonia, 6.36 per cent.
Bone Phosphate Soluble, over 20.00 "
Potash, 5.56 "

CAPT. G. E. HILLERT, a prominent and successful planter of Anne Arundel Co., Md., says "BAUGH & SONS' HIGH GRADE TOBACCO MANURE" with but a light application raised the best Tobacco for me I ever saw; it grew rapidly, made a large leaf of beautiful texture and colored perfectly.

I applied a moderately strong solution, half pint to each plant twice during the season, and the effect was wonderful. I shall use it again this season of '75 and recommend it to other planters.

A VALUABLE BIRD DEPOSIT.

ESTRELLA TRUE BIRD GUANO,

Imported into the United States by B. F. FOLSOM, for

BAUGH & SONS, PHILADELPHIA AND BALTIMORE.

This Guano possesses the most remarkable characteristics as a soluble and lasting fertilizer for all crops. The Bone Phosphate is more immediately available to the use of the plant than that of the **Finest Ground Raw Bones**. This has been proven by wide and intelligent practical use. The analysis of four cargoes shows an average of 58.105 per cent. of Bone Phosphate of Lime. The lowest analysis of any cargo has given over 56 per cent. Bone Phosphate. This article we confidently recommend to our customers the present season, as one of the most economical Manures in the American market.

Price in Bags of 200 lbs. each, \$30 per 2,000 lbs.

**20 S. DELAWARE AVENUE, PHILA.
103 SOUTH STREET, BALTIMORE.**

ap-3m

THE AMERICAN FARMER.

COE'S Ammoniated Bone Phosphate.

Established in 1845.

And has sustained its high reputation for
THIRTY YEARS.

LETTER FROM MAJ. L. GIDDINGS,
Master Grange, Annapolis, Md.

ANNAPOLIS, MD., Nov. 23, 1874.

ANDREW COE, Esq., Baltimore, Md.
Dear Sir:

Having heard your Super-Phosphate highly recommended by some of my neighbors, I was induced to try it last spring, and now take pleasure in saying that I consider it one of the best compounds of its class that I have ever used. I applied it to my plant-beds, to melons and vegetables of many kinds, to young trees and grape vines, and to corn in the hill; and in all cases the fertilizer caused a prompt and rapid growth. The only rows in my potato patch not seriously injured by the Colorado Beetle, were those in which your phosphate was used,—the tubers having obtained good size before the bugs appeared.

Truly yours, L. GIDDINGS.

HON. E. J. HENKLE, M. C.
Master Grange.

BROOKLYN, ANNE ARUNDEL CO., MD.

MR. ANDREW COE.

Dear Sir—I have used Coe's Super-Phosphate of Lime on my corn crop for two successive years, and take great pleasure in testifying to its merits. My crop last year was better filled in the ear and heavier than I ever raised before. The soil was of inferior quality, and I could only attribute the success of the crop to the effects of the Fertilizer. I have used it again this year and it promises equally good results. It is, in my opinion, the most popular and best manufactured Fertilizer in use in this community.

Very truly, yours, E. J. HENKLE.

CATONSVILLE, BALTO. CO., Feb. 18, 1875.

MR. ANDREW COE.

Dear Sir—It gives me great pleasure to say I have used your "Super-Phosphate" on all kinds of crops, both garden and field, and can recommend it to any one having need of a Fertilizer.

WM. PRICE.

MILLERSVILLE, A. A. Co., Md. }
February 15th, 1875. }

MR. ANDREW COE.

Dear Sir—The Phosphate I bought of you last spring, I used on Tobacco, and it proved highly satisfactory, and I shall purchase again this spring, and would recommend it as a first-class article.

Yours, very respectfully, OWEN CECIL.

ANNE ARUNDEL Co., MD., Feb. 21, 1874.

ANDREW COE, Esq., Baltimore, Md.

Dear Sir—I commenced using your Ammoniated Bone super-Phosphate of Lime in 1866, and since that time I have used about one hundred tons of your Phosphate, and I have also used most, if not all, of the standard Fertilizers in the market, and after seven years' experience I prefer yours to any other kind I have used. I shall want of you 15 or 20 tons this season.

Yours, very respectfully,

BASIL S. BENSON.

ANNE ARUNDEL Co., MD., Feb. 17, 1875.

ANDREW COE, Esq.

Dear Sir—I used the last season about twenty tons of your Fertilizer, and I can say it is equal, if not superior, to that I have bought of you for the last seven or eight years, and I shall want at least 20 tons this season.

Yours truly, BASIL S. BENSON.

Our old friend, Mr. B. S. Benson, well known as reliable in anything he may have to say, testifies as to his experience in the use of Coe's Super-Phosphate, used on his farm in Anne Arundel Co.

EDITOR AMERICAN FARMER.

BRYANTOWN, CHARLES CO., MD., January 7, 1875.

MR. ANDREW COE, Baltimore, Md.

Dear Sir—In regard to the Phosphate bought of you last spring, I am happy to say it gave entire satisfaction on Corn, Tobacco and in the garden, and you have my cordial support in recommending it.

Yours truly,

S. J. REED.

HANOVER STATION, ANNE ARUNDEL Co., MD., }
February 1st, 1875. }

MR. ANDREW COE, Baltimore:

Dear Sir—Having used your Super-Phosphate for the last eight years, and having thoroughly tested it with other Fertilizers bearing the best reputation I could find, I have found yours superior to any other that I have met with, and shall continue its use.

Very respectfully, yours,

F. M. SMITH.

PRICE \$50 PER TON.

ANDREW COE,
Office, No. 172 West Pratt Street,
BALTIMORE.

NEW CATALOGUE.

Our illustrated and descriptive CATALOGUE of 1873, containing many new, scarce and valuable **GREEN-HOUSE** and **BEDDING PLANTS**, and rare and choice **NURSERY STOCK**, is now ready for distribution. Mailed on application and receipt of postage stamp.

MILLER & HAYES,

Mount Airy Nurseries,

PHILADELPHIA, PA.

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Valuable Lands For Sale

IN PIEDMONT SECTION OF THE JAMES RIVER VALLEY.

The subscriber has a large number of **VALUABLE FARMS** on sale in counties of Amherst, Nelson, Albemarle, Fluvanna, Goochland, Powhatan, Cumberland, Buckingham, Appomattox, Campbell and Bedford, embracing the finest lands and mill properties in the State, from \$8 to \$25 per acre, and in tracts from \$50 to \$2,000 acres, on easy terms. These lands lay contiguous to railroad and canal, and not over eighteen hours by railroad from New York or eight hours from Baltimore. A Vineyard of Seven Acres to Lease and put out on shares. Address, with a stamp, or apply in person to

H. MANOAH PRICE,
James River Valley Land Agency,
Antioch, Fluvanna Co., Va.

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JERSEY (Alderney) CATTLE.

Some imported solid colors and black points. Particular attention given to breeding from best milking families.

SOUTHDOWN SHEEP

Of superior quality, a portion imported in 1874 from William Rigden, one of the most noted breeders in England.

BUCKS, EWES and LAMBS at reasonable figures. Address

J. STRICKER JENKINS,

18 Second Street, Baltimore.

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LEWIS KELLUM.

J. H. LIVINGSTON.

L. KELLUM & CO.

Bone, Guano and Seed Depot,

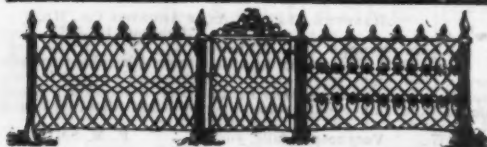
No. 119 HILLEN STREET, Near BELAIR MARKET.

Agents for Lister Brothers' **STANDARD SUPER-PHOSPHATE** of LIME and GROUND BONE,

At Factory Prices,

And all the Popular Brands of Phosphates of this market constantly on hand.

TIMOTHY, CLOVER and ALL FIELD SEEDS, also CORN, OATS and MILL FEED,



WIRE RAILING

AND

ORNAMENTAL WIRE WORKS.

DUFUR & CO.

No. 36 North Howard Street, Baltimore, Md.

MANUFACTURE

Wire Railing for Cemeteries, Balconies, &c.

SIEVES, FENDERS, CAGES, SAND and COAL SCREENS, WOVEN WIRE, &c.

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Also, Iron Bedsteads, Chairs, Settees, &c., &c.

BALTIMORE

THOS. NORRIS & SON, 141 W. PRATT ST., BALTIMORE.

Offer for sale the following

FIRST-CLASS

Superior Machinery and Implements

Aultman & Taylor's Threshers and Cleaners,

Unquestionably *the* machine of the day.

Westinghouse Vibrating Thresher & Cleaner

A well-known machine of good reputation.

Threshers and Cleaners and Plain Threshers

Suitable for small Farmers.

HORSE POWERS,

Various sizes, Best in Use.

STEAM ENGINES FOR THRESHING MACHINES,

Wood's Mowing & Reaping Machines.

BICKFORD & HUFFMAN'S GRAIN DRILLS,

 **Malta Wheel Walking Cultivator,**

An *invaluable* Implement to the Farmer. Pays for itself in one season.

CUCUMBER PUMPS,

With solid Cast Iron **Poreelain-Lined** Cylinder. Very popular wherever introduced.

SCHUTTLE'S FARM & FREIGHT WAGONS.

HILL'S HOG RINGS, RINGERS & TONGS

To prevent Hogs from Rooting.

In addition to the above **Specialties**, we keep on hand every variety of useful **Farming Implements** and **Tools** to be found in a first-class Agricultural Implement House.

Field and Garden Seeds, Pure Raw Ground Bone and Bone Meal and other Fertilizers.

THOMAS NORRIS & SON,

141 Pratt street, Baltimore, Md.

BONE DUST - - BONE FLOUR !

ANAYISIS.

Ammonia	4.37
Bone Phosphate of Lime.....	44.56

WARRANTED CHEMICALLY PURE

Superior in quality, and in finer mechanical condition than any other manufactured in this vicinity.

PRICE, - - - \$43 Per Ton in Bags.

J. J. TURNER & CO.

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42 Pratt St., Baltimore, Md.

Sands' Farmers and Planters' Agency.

Referring to our Advertisement elsewhere, offering to purchase and ship for our friends

All Kinds of Fertilizers, &c.

we also call attention to our facilities for the selection and forwarding of Every Description of
Agricultural Implements and Machinery,

Portable Steam Engines and Boilers,

Saw and Grist Mills, &c.,

Wagons, Carriages, Buggies, &c.

Likewise

**FRUIT AND ORNAMENTAL TREES, SHRUBS AND PLANTS; FIELD,
GARDEN AND FLOWER SEEDS.**

ALL KINDS OF FARM SUPPLIES.

We also offer to select and have shipped

IMPROVED LIVE STOCK,

CATTLE, HORSES, SHEEP, SWINE and POULTRY. In this Department we buy only from breeders of established reputation of the several kinds, and cannot undertake to procure ordinary farm stock, such as draft horses, milch cows, &c. In this vicinity great attention is paid to some particular breeds of stock, and specimens can be had here which are nowhere to be surpassed.

As in all transactions we operate for the purchaser, our terms must necessarily be

CASH (or its equivalent.)

Sam'l Sands & Son,

EDITORS AND PUBLISHERS AMERICAN FARMER,

No. 9 North St., Baltimore, Md.

John Saul's Catalogue of New, Rare and Beautiful Plants.

Will be ready early in February, with a colored plate, mailed free to all my customers—to others, price 25 cts.; a plain copy to all applicants free.

PLANT DEPARTMENT

contains an immense stock of New, Rare and Beautiful Plants, sets of new Pelargoniums, new Zonale and double Geraniums, new Fuchsias, new Roses, new Heliotropes, Begonias, Dahlias, Gladiolus, &c.

FRUIT AND ORNAMENTAL TREES.

Beurre d'Assumption, Souvenir du Congrès—with a collection of other new Pears. Early Beatrice, Early Louisa, Early Rivers—with a set of other new Peaches. A large stock of PEAR, APPLE, PEACH, PLUM, CHERRIES, &c., Standard and Dwarf. GRAPEVINES, SMALL FRUITS, &c. ORNAMENTAL TREES, in great variety for Parks, Lawns, Gardens, &c. EVERGREENS of all sizes—all of the finest quality, and at the lowest rates.

VEGETABLE SEEDS,

of the finest quality, fresh and pure, grown by myself or specially for me, or my importation.

FLOWER SEEDS

Being extensively engaged in importing and growing New and Rare Plants, consequently my facilities for Seed-saving are unequalled. The following Catalogues—with others, now ready—mailed free: No. 1, a descriptive Catalogue of Fruit Trees; No. 2, a Catalogue of Garden, Agricultural and Flower Seeds; No. 3, a Catalogue of New, Rare and Beautiful Plants.

John Saul,

WASHINGTON, D. C.

feb-3t

TREES, Etc.

We offer for **SPRING, 1875**, an unusually

large stock of well-grown, thrifty

Standard and Dwarf Fruit Trees.
Grape Vines, Small Fruits.
Ornamental Trees, Shrubs, Roses.
New and Rare Fruit and Ornamental Trees.
Evergreens and Bulbous Roots.
New and Rare Green & Hot-House Plants.

Small Parcels forwarded by mail when desired.

Prompt attention given to all enquiries.

Descriptive and Illustrated Priced Catalogues sent prepaid on receipt of stamps, as follows:

No. 1—Fruits, 10c. No. 2—Ornamental Trees, 10c. No. 3—Greenhouse, 10c. No. 4—Wholesale, Free.

Address, **ELLWANGER & BARRY,**
Estab'd 1840.
[3t] Mount Hope Nurseries, ROCHESTER, N. Y.

Small Fruits for Spring Planting.

STRAWBERRIES, RASPBERRIES, BLACKBERRIES,
CURRANTS, GOOSEBERRIES, GRAPEVINES,
and ASPARAGUS ROOTS; also, DAHLIAS,
GLADIOLUS, TUBEROSES.

SEND FOR PRICE-LIST.

Address

J. COOK,

Carroll Post-Office,
BALTIMORE CO., MD.

[feb-3t

GARDEN & FIELD SEEDS.

GUANO, BONE, PLASTER AND FERTILIZERS. CLOVER, TIMOTHY, ORCHARD, HERDS
KENTUCKY BLUE, AND OTHER FIELD-GRASS SEEDS. LAWN
AND ORNAMENTAL GRASS SEEDS.

THE PREMIUM

BUCKEYE

Self-Discharging



**HORSE
RAKE.**

Manufacturers of and dealers in

AGRICULTURAL AND GARDEN IMPLEMENTS OF EVERY DESCRIPTION.

We invite the attention of Farmers, Gardeners and others to our complete stock of Implements, Seeds, &c., in which will be found all articles pertaining to our business. Our GARDEN SEEDS are of the latest and best varieties, all of which are fresh and true to name.

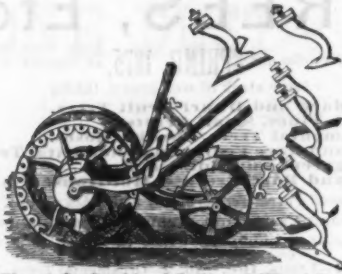
In our stock of Implements we include an assortment of the best in the market, among which are Reapers and Mowers, Storer's Patent Wheat Fan, guaranteed equal to any in the market—price \$35.00; Buckeye Self-Discharging Wheel Horse-Rake, Hand Delivering Wheel Rakes, Bullard's Hay Tedder, Hagerstown Grain, Seed and Fertilizing Drill, Empire Thresher and Cleaner, Champion Rye Thresher, Pelton and Railway Horse-Powers, Double Harpoon Hay Fork, Lawn Mowers—price \$20.00. Cider Mills and Presses, Maryland Hay, Straw and Fodder Cutter—9, 11 and 16 in. knife. Pioneer Stump Puller—price \$50.00. Cucumber Wood Pump—price \$5.00. Knives and Sections for Mowers and Reapers, Steel and Cast-Iron Plows, Plow Castings, &c.

Many of the above articles took the First Premium at our Maryland State Fair in October, 1874.

GRIFFITH & TURNER,

41 and 43 N. Paca Street, BALTIMORE, MD.

mh-ly



Planet Jr. Combined Drill and Wheel Hoe.

The Planet Junior Seed Drills AND WHEEL HOES—FOUR STYLES.

These excellent tools are of the newest and most improved construction, combining all the good points of the original "Planets" with new and valuable features, and they are simple, artistic, compact and strong, *working well in all soils*. They sow perfectly all Garden and small nursery seeds; the Combined Machine holds one quart, and becomes a Wheel Hoe by removing one bolt. It has two pairs of interchangeable *tempered steel* hoes, one for delicate work close to the plants, leaving the ground level; the other for throwing heavy furrows to or from the row. It also has a sub-soller and shovel plow for deep stirring, and for opening drills for Potatoes, Corn, Beans, &c. No vegetable garden, however small, should be without one. *Send for full descriptive Circulars.*

Prices:—Delivered, packed, at depots in Philadelphia. Complete directions for use accompany each machine.

Planet Junior Combined,	\$16.00
" " No. 2,	12.00
" " Double Wheel Hoe,	10.00
" " No. 2,	16.75
Hoe Steels, by mail, each	.35
Plow " "	.40

MANUFACTURED ONLY BY **S. L. ALLEN & CO.**

Office and Sample Rooms—119 S. Fourth St., PHILADELPHIA.



My annual catalogue of Vegetable and Flower Seed for 1875, will be ready by January 1st for all who apply. Customers of last season need not write for it. In it will be found several valuable varieties of new vegetables introduced for the first time this season, having made new vegetables a specialty for many years. Growing over one hundred and fifty varieties on my several farms, I would particularly invite the patronage of market gardeners and all others who are especially desirous to have their seed pure and fresh, and of the very best strain. All seed sent out from my establishment are covered by three warrants as given in my catalogue.
Jan-31 JAMES J. H. GREGORY, Marblehead, Mass.

ESTABLISHED 1816.

CHAS. SIMON & SONS,

63 NORTH HOWARD ST., BALTIMORE, MD.

Dealers in

FOREIGN & DOMESTIC DRY GOODS,

would call special attention to their splendid stock of Dry Goods, Linen Goods, Embroideries, Laces, and Hosiery; the best assortment of Mourning Goods in the city.

SAMPLES SENT FREE!

All orders amounting to \$3.00 or over, will be sent free of freight charges by Express, but parties whose orders are not accompanied by the money, and having their goods sent C. O. D., must pay for return of the money.

\$5 to \$20 Per Day at home. Terms free. Address G. STINSON & Co., Portland, Me. [6-17]

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Celebrated Clothiers OF BALTIMORE, MD.

Announce the introduction of a plan of ordering

CLOTHING AND UNDERWEAR BY LETTER,

to which they call your special attention. They will send on application their improved and accurate **RULES FOR SELF-MEASUREMENT**, and a full line of samples from their immense stock of

Cloths, Cassimeres, Coatings, Shirts, &c., &c.

A large and well-assorted stock of **READY-MADE CLOTHING** always on hand, together with a full line of **FURNISHING GOODS**.

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165 and 167 W. BALTIMORE STREET, Baltimore, Md.

THE AMERICAN FARMER.

THE WATT PLOW.
VICTORIOUS ON EVERY FIELD.

Those Who Use It Will Have no Other.

AWARDED FIRST PREMIUM AT EVERY FAIR ATTENDED IN 1874.

VIRGINIA STATE FAIR AT RICHMOND—First premium on three and four-horse sizes, right and left hand. At the plowing match, ALL PREMIUMS AWARDED while plowmen were taken with Watt Plows of one, two, three and four-horse sizes, and colored plowmen with one, two and three-horse sizes, BEING SEVEN OUT OF EIGHT PREMIUMS.

North Carolina State Fair at Raleigh. South Carolina State Fair at Columbia. Georgia State Fair at Atlanta. Orangeburg, S. C. Danville, Va. Weldon, N. C. Charlotte, N. C. Point Pleasant, W. Va.

This, with its great reputation before it, has won new laurels this year which must convince every farmer of its superiority. No chocking where bright and smooth. No labor to plowmen. One-third less DRAUGHT to the team. Thorough burial of the weeds, grass, &c. Great STRENGTH, durability and economy, and complete pulverization of the soil. Warranted as represented, or to be returned. Send for Catalogue and Price-List.

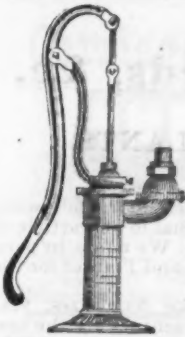
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SOLE MANUFACTURERS, 1452 Franklin Street, Richmond, Va.

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HYDRAULIC ENGINEERS,

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Public and Private Buildings Heated by Steam or Hot Water; Plumbing of every description, with Lead, Galvanized or Plain Iron Pipe; hot and cold water; Hydraulic Machines, various patterns, simple in construction and durable, viz: Steam Pumps, positive action; Hot Water Pumps, Acid Pumps, Double Action Pumps, Brass and Iron; Water-Wheel Pumps, Water Rams, Wind Mill Pumps, Horse-Power Pumps, Steamboat Pumps for extinguishing fire; Springfield Gas Machines for lighting Country Houses, Hotels, Factories and Railroad Stations, &c., &c.

Having experienced workmen in our employ, any work entrusted to our care will be promptly and satisfactorily done.

We have the privilege to refer to the following gentlemen as to our capability to do the above work: Hon. Reverdy Johnson, Hon. Henry G. Davis, Hon. Wm. Pinkney Whyte, Francis T. King, Esq., J. H. B. Latrobe, Esq., Samuel G. Wyman, Esq., William G. Harrison, Esq., William W. Taylor, Esq., John Gregg, Esq., Wm. F. Burns, Esq., J. W. Allnutt, Esq., Messrs. Baldwin & Price, Architects.

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TREES AND PLANTS.

Rosebank Nurseries.

We invite the attention of Planters and Amateur Cultivators to our complete stock of the following:

APPLES, Standard and Dwarf.

CHERRIES, Standard and Dwarf.

PEACHES, PLUMS and GRAPE VINES, together with other SMALL FRUITS of popular kinds. ORNAMENTAL TREES, EVERGREENS and SHRUBS, with ROSES

in great variety. A large stock of choice GERANIUMS, VERBENAS, and other bedding-out plants.

75 to 100,000 two and three-year old OSAGE ORANGE HEDGE PLANTS.

ORDERS BY MAIL PROMPTLY ATTENDED TO. Catalogues forwarded on Application.

W. D. BRACKENRIDGE.

MARYLAND BRITANNIA
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GOLD AND SILVER PLATE WORKS.

ESTABLISHED 1850.

WM. HOLMES,

SALES ROOM.....No. 3 NORTH CHARLES STREET.

Office and Factory, Nos. 50 and 52 Holliday Street,

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Repairing and Replating done so as to look equal to new ware.

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THE AMERICAN FARMER.

R. SINCLAIR & CO.,

MANUFACTURERS OF

Agricultural Implements

AND

MACHINERY.

Also, Growers and Importers of

 **Garden and Field Seeds, &c.**

DEALERS IN FRUIT TREES AND PLANTS.

We would call the special attention of our friends and customers to the following first-class Machinery and Implements, which we guarantee to be equal to any article of the kind made in this country, being all of our own manufacture. We name, in part, such Machinery and Implements as are required by the Farmer and Planter for the Spring and Harvest Season, viz:

SINCLAIR'S PATENT MASTICATORS, of which we make four sizes, viz: Hand, Hand and Power, and Steam and Water Powers. These machines are the best in use for the purpose of cutting up Corn Stalks and Sugar Cane.

SINCLAIR'S PATENT SCREW PROPELLORS, HAY, STRAW AND FODDER CUTTERS, of which we make six (6) sizes, viz: Two light sizes, for hand power; two medium sizes, which can be run by hand or power, and two sizes for horse power. All of the above-named Cutters are our own patents and manufacture, and as such we can recommend them. Our 6-inch Small Hand Cutter is considered to be the best cheap Cutter made in this country. Price, \$16.00.

READING'S PATENT HORSE-POWER CORN SHELLER, with and without Cleaning Attachment. The Attachment is Sinclair & Co.'s Improvement.

VIRGINIA HAND AND POWER SHELLER, with and without Cleaner. The Cleaner to this Sheller is also Sinclair & Co.'s Improvement.

DOUBLE AND SINGLE IRON SPOUT DOUBLE-GEARED HAND SHELLERS, WOOD-SPOUT HAND SHELLERS, several kinds.

SINCLAIR & CO.'S SOUTHERN IRON-BRACE GRAIN CRADLES, with Four, Five and Six Fingers. Considered the best Cradle made in this country.

SCULLY'S CELEBRATED CIDER AND WINE MILL AND PRESS, two sizes. They speak for themselves; in fact, they have no equals.

"ANDERSON'S" AGRICULTURAL STEAMER, for Cooking Food for Stock. The best in use.

PELTON PATTERN OF HORSE POWERS, several sizes.

"CARDWELL'S" PATENT THRASHER AND CLEANER, two sizes.

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BUCKEYE REAPERS AND MOWERS, all the different sizes and styles.

ADVANCE MOWERS, HORSE WHEEL-RAKES, HAY TEDDERS, HORSE HAY-FORKS, SULKY CULTIVATORS, PLOWS, HARROWS and CULTIVATORS, and all kinds of

FARMING AND HORTICULTURAL TOOLS.

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WM. DAVISON, Pres't. B. N. BAKER, Sec'y.

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OF ALL STYLES,

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New and Second-hand Carriages constantly on hand. All orders promptly executed at Reasonable Rates. Repairs done on Shortest Notice. nov-ly J. J. HAND.

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STEAM MARBLE WORKS,

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The Trade supplied with MARBLE IN BLOCKS, or cut to size, at Lowest Rates.

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No. 140 W. BALTIMORE STREET,

Between Calvert and North (Rinehart Buildings), where may be seen
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STATUARY, MANTELS,

FURNITURE SLABS,

COUNTERS, TILE,

MONUMENTS, TOMBS,

GRAVESTONES,

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THE AMERICAN FARMER.



With an experience of nearly forty years in supplying the wants of farmers all through the Middle and Southern States, we again call attention to our facilities for supplying

ALL KINDS OF FERTILIZERS

now offered in this market. No other point in the country offers greater facilities for the manufacture, purchase and shipment of supplies of this kind. We can furnish at the manufacturers' prices all the various

SUPER-PHOSPHATES

made in this city. We will buy and ship, on order,

PERUVIAN CUANO,

delivering the same in any quantity above one ton, direct from the Agent's Warehouses, and always under guarantee of its freedom from adulteration. Also,

PHOSPHATIC GUANOS,

SOUTH CAROLINA PHOSPHATE,

KAINIT AND MURIATE OF POTASH.

BONE DUST

OF ALL KINDS and FINENESSES; BALTIMORE MADE, EASTERN, WESTERN and TEXAN.

OIL OF VITRIOL AND CHEMICALS

for making fertilizers at home.

Land Plaster, Agricultural Salt and Lime.

Especial attention is directed to our facilities for having manufactured to suit specific purposes,

SPECIAL FERTILIZERS

in lots of from 20 tons and upward, with guaranteed percentages of ammonia, soluble phosphate and potash, as desired, and at prices proportionate to their constitution as per analysis.

Farmers desiring small quantities, and clubs, granges and societies, proposing to co-operate in the purchase of large lots, are advised to correspond with us, naming their wants, when we will report terms, prices and constituents of such Fertilizers as they may desire.

Farmers and Planters ordering any specified make of Fertilizers will have their orders filled promptly, and where discretion is given us to select, we will so act as to insure satisfaction in our purchases.

The reputation of our establishment through a long series of years of a business in this line, is an assurance of our ability and disposition to faithfully serve our friends and customers.

Terms Cash, or its Equivalent.

SAM'L SANDS & SON,

Publishers American Farmer,

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WM. STUART SYMINGTON.

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PATAPSCO CHEMICAL WORKS.

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AND OTHER CHEMICALS.

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"THE CARROLLTON."



This new and beautiful Hotel, located upon the site of "Old Fountain Hotel," extended by an elegant front on Baltimore street, is convenient alike to the business man and the tourist.

It is the only Hotel in Baltimore of the new style, embracing

ELEVATORS, SUITS OF ROOMS, with BATHS,

And all conveniences; perfect ventilation and light throughout, and was planned and built as a Hotel, new from its foundation.

Its elegant and convenient Office and Exchange Room, with Telegraph, &c., will at all times be at the disposal of the merchants and citizens of the city.

The location of the Ladies' Entrance on Baltimore street, and the beautiful Drawing Rooms connected therewith, will give to families more than the usual degree of quietude and seclusion.

The undersigned refers to his career of over thirty years as a Hotel Manager in New York and Baltimore, and feels confident, that with a new and modern house, he can give entire satisfaction to his guests.

To accommodate Merchants and others who visit Baltimore, the proprietor will charge \$5 per day for the rooms on fourth and fifth floors, making the difference on account of the elevation. Ordinary transient rates for lower floors, \$4 per day.

R. B. COLEMAN, Proprietor.

BALTIMORE, MD.

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THE AMERICAN FARMER.

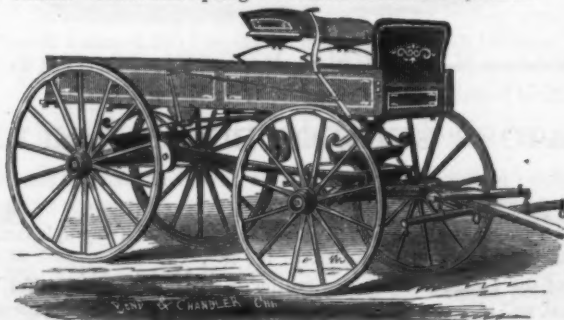
FARM AND FREIGHT WAGONS.



We offer for sale, as the Agents for Baltimore, the SCHUTTLE WAGON. We will not adopt the stereotype phrase of advertisers generally—that they are “the BEST IN THE WORLD”—but will WARRANT them to be EQUAL to ANY, and SUPERIOR to many makes that are represented on PAPER as the BEST. The wagons speak for themselves. We ask an examination by those who want, before they purchase elsewhere, if possible. A WRITTEN warranty will be furnished with each wagon sold, if desired. Prices as follows:

SIZE OF SKEINS.	SIZE OF TIRES.	CAPACITY.	PRICE.
2½x8	1½x½	1,500 lbs.	\$110.00
3 x9	1½x½	2,000 “	110.00
3½x10	1½x9-16	3,000 “	115.00
3½x11	1½x½	3,500 “	120.00
3½x12	1½x½	4,500 “	125.00
4 x12	2 x½	5,500 “	137.50

For the above prices, include Running Gear, Single and Top Box, Whiffletrees, Neck-yoke, Wrench and Stay Chains. Brake and Spring Seat furnished extra at \$6 each.



The above cut represents a very neat, beautifully finished, THIMBLE-SKEIN SPRING WAGON, with one Spring Seat and either Pole or Shafts. Very suitable for country merchants and farmers as a light express wagon or pleasure carriage.

SIZE OF SKEIN.	SIZE OF TIRES.	CAPACITY.	WITH BRAKE.	WITHOUT BRAKE.
2½x7½	1½x½	1,200	\$118	\$110
2½x6½	1½x½	1,000	128	120
Each additional seat.....				5.00
One pair steps.....				3.00
Extra shafts or pole.....				10.00

All orders will have prompt attention.

THOMAS NORRIS & SON,

Manufacturers and Dealers in Agricultural Implements, Machinery, Seeds, &c.,

141 WEST PRATT STREET, BALTIMORE.



PENNSYLVANIA Agricultural Works, YORK, Pa.

A. B. FARQUHAR,
MANAGER AND PROPRIETOR.

The Pennsylvania Agricultural Works is one of the most extensive establishments of its kind in the United States. It is furnished with improved Machinery, Foundry, Forging Rooms, Planing and Sawing Mills, Lumber Yard, &c., complete within itself. It is situated among the great Iron, Coal and Lumber fields, which form the basis of all manufacturing; and I would respectfully call the attention of the public to these advantages, confident of meriting an extended patronage.

The following are among the specialties:

**AGRICULTURAL STEELS, PLOWS, CULTIVATORS, HORSE
RAKES, PLOW HANDLES,**

Threshing Machines, Horse Powers, &c.

HORSE POWERS.

The Horse-Power is one of the most important implements, and probably the most difficult to keep in order; too much care, therefore, cannot be used in selecting the very best.

I have long made the manufacture of Horse-Powers a specialty, and can safely recommend my improved Iron-Geared Powers to be all that I claim for them.

FARQUHAR'S CLIMAX HORSE-POWER,

For Threshing, Ginning and General Farm Use,

ranks first; being the result of many years' labor, "practice with science," and the expenditure of thousands of dollars in experimenting.

It is remarkable for its light draft, simplicity, great strength and durability. It is fitted up with as much care as a piece of cotton machinery or steam engine, and will last as long. The rule, the "best is the cheapest," applies with special force to Horse Powers.

THE PELTON OR TRIPLE-GEARED IRON POWER.

This well-known power is noted for its strength, cheapness and general efficiency. Like the Climax, the gearing is all secured in an iron frame, and is uninjured by the weather. The pinions are made of chilled iron, and no pains are spared to make it a first-class, cheap power.



Improved Railway Horse-Powers, Threshers and Separators,

Have been a specialty with me for many years, and those who favor me with their orders may rely upon getting a machine which will run as light, waste less grain, and give more general satisfaction than any offered.

PLOW HANDLES.

Having improved Blanchard machinery for the manufacture of Plow Handles upon an extensive scale, I can supply first quality Handles, side bent to order for any pattern of plow.

For further particulars, address

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RHODES' Standard Manures.

PREPARED FOR ALL CROPS.

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THOMAS W. LEVERING & SONS,

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Commission Merchants and Dealers in Seeds,

HAVE ON HAND

Clover, Sapling or English Clover,

Timothy, Orchard and Herds Grass,

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AND OTHER FIELD SEEDS.

COTTON PLANTING 1875.

SOLUBLE AMMONIATED

SOUTH SEA GUANO

Ton, 11 Bags,

\$50.00

ORCHILLA GUANO

A. A.

Ton, 12 Bags,

\$30.00.

B. M. RHODES & CO., Importers,

DISCOUNT TO DEALERS.

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82 South Street, Baltimore, Md.

FARMERS & HORSE OWNERS, ATTENTION!

TRY THE CELEBRATED PATENT

RUBBER-LINED HORSE COLLARS AND PADS,

PATENTED SEPT. 3, 1867,—JUNE 16, 1868.

THEY POSSESS EVERY ADVANTAGE OVER ALL OTHER COLLARS!

THEY ARE WARRANTED NOT TO GALL if properly fitted, being always dry, cool, smooth and elastic, and easily washed and kept clean.

THEY ARE WARRANTED TO HEAL GALLS, under work in hot weather, with the application of cold water only. The Vulcanized Rubber possesses Sulphur, White Lead, &c., cooling and healing in their nature.

THEY ARE WARRANTED TO OUTLAST OTHER COLLARS if kept clean with water only. No Oil, Grease, Soap or Liniment, must be used on the Rubber, as it will soften it and cause it to peel off in time. They are as easily repaired as any other Collar. Price Lists and Descriptive Circulars sent by mail. Sample Collars sent by express C. O. D. Liberal discount to the trade.

Prices—\$2.50 to \$5.00 retail.

Address

W. D. MACY, Sole Manufacturer,

No. 11 German Street, Baltimore, Md

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THE AMERICAN FARMER.

BONE DUST & BONE MEAL.

"The Standard in America."

Ammonia 5 Bone Phosphate of Lime..... 54
\$45 Per Ton, in Bags.

MARYLAND SUPER - PHOSPHATE

And Tobacco Sustain.

750 lbs. Peruvian Guano. 1,100 lbs. Bone Dust. 150 lbs. Potash.
\$50 Per Ton, in Bags.

DISSOLVED OR VITRIOLIZED BONE,

\$48 Per Ton.

No. 1 PERUVIAN GUANO, OIL VITRIOL (warranted full strength), MURIATE POTASH, SULPHATE OF SODA, NITRATE OF SODA, SULPHATE OF AMMONIA, And other Chemicals for making Super-Phosphates and Fertilizers, at Wholesale Prices.

JOSHUA HORNER, Jr. & CO.

54 S. Gay St., Cor. Chew and Stirling Sts., and 178 Forrest St.

HULL, MATHEWS & CO.

Produce Commission Merchants

FOR SALE OF

Butter, Eggs and Produce Generally

And Dealers in FLOUR, GRAIN and FEED.

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GEORGE PAGE & CO., Machinists and Founders.

Portable and Stationary Steam Engines
and Boilers, Patent Portable CIRCULAR SAW MILLS, Portable
Grist Mills, Horse Powers, Leffel's
Turbine Water Wheel, &c.



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PENNSYLVANIA ROUTE,
FORMED BY THE
NORTHERN CENTRAL
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PENNSYLVANIA RAILROADS
ON THE
West, Northwest and Southwest,
To PITTSBURG, CINCINNATI,
LOUISVILLE, INDIANAPOLIS,
CHICAGO, ST. LOUIS,
AND ALL OTHER
PROMINENT POINTS.

BALTIMORE & POTOMAC
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Alexandria & Fredericksburg Railways
ON THE SOUTH TO
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THE ONLY
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OMNIBUS TRANSFER AT WASHINGTON.
NORTHERN CENTRAL
AND
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ON THE NORTH TO
HARRISBURG, WILLIAMSPORT, ELMIRA,
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Baggage called for and checked at Hotels and private residences through to destination. Sleeping and Parlor Car accommodations secured.

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N. E. Corner Baltimore and Calvert Streets,
At Depot N. C. Railway,

UNION DEPOT, CHARLES STREET STATION,
And PENNSYLVANIA AVENUE STATION.

FRANK THOMSON,

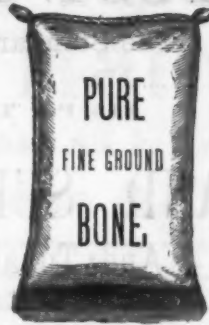
General Manager.

feb

D. M. BOYD, Jr.,
Gen'l Passenger Ag't.
Penna and N. C. R. R.
SAMUEL T. DEFORD, Jr.,
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R. J. BAKER & CO.

MANUFACTURERS AND
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Pure Ground Bone
AND
CHEMICALS
FOR
FERTILIZERS.
36 & 38

South Charles St.
BALTIMORE, MD.

Potash Salts,
OIL VITRIOL,
Nitrate
of Soda.

jan-1y]

GRANGER CULTIVATOR.

To the FARMERS of Maryland, Virginia and North Carolina.

I offer you for the next season the Granger Cultivator, with out tongue or wheels. It has been fully tested in Virginia and the Western States without a single instance of dissatisfaction. A man and team can cultivate ten acres a day. It is invaluable for putting in crops of Wheat, Oats and Rye, and for the cultivation of CORN, TRUCKS, TOBACCO, ORCHARDS, &c. It is the *Lightest, the Best, and the Cheapest*, and costs \$10 less than any other Walking Cultivator. It can plow from 2 to 5 inches deep, and throw the dirt to or from the row, each shovel throwing as much dirt as a small one-horse plow.

TESTIMONIALS.

BROWN'S STORE P. O., Va., July 17, 1874.

Mr. R. L. HARVEY—Dear Sir:—Your enquiry of my opinion in reference to the operation of the Walking Cultivator is, that I consider it decidedly the *best implement I have ever seen to work corn*, and, I believe, many other crops. It enables the farmer to control a large crop of corn with little labor, *does its work perfect*, and will become in general use wherever introduced.

Respectfully,

E. BROWN.

KILMARNOCK P. O., Va., Aug. 19, 1874.

Mr. R. L. HARVEY—Dear Sir:—You wish to know how I am pleased with the Granger Cultivator that I used this year; in reply I answer that if I had to be without one I would stop raising corn. I have tried it thoroughly in stiff and light land and in wire grass, and find it does as good work as any single-horse plow, besides four times as much. Very respectfully yours, &c.

HORACE L. BALL.

Address **PRICE \$25.00.**

R. L. HARVEY,

SOLE AGENT for Maryland, Virginia and N. Carolina,
REHOBOTH CHURCH,

jan-5t]

Northumberland Co., Va.

THE AMERICAN FARMER.

Established]

A. E. WARNER,

[1811.

Manufacturer of

Silver Ware & Rich Jewelry,

English, Swiss and American WATCHES of the Best Makers;
Importer and Dealer in Diamonds, Fine Watches,
Silver-Plated Ware, Table Cutlery, &c.

WEDDING PRESENTS,

Premiums for Agricultural Fairs, Fine Bronzes, Opera Glasses and Shell Jewelry, &c.

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No. 135 W. Baltimore Street, near Calvert, Baltimore.

JOHN D. HAMMOND.

HENRY A. ANTHONY.

JOHN D. HAMMOND & CO.

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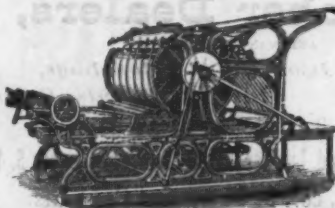
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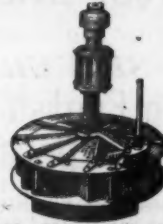


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